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7-11 August	**Study Group on the Effects of Radiation on Human Genetics, Copenhagen**
19-25 August	**PASB/AMRO Seminar on Smallpox Vaccination, Lima**
7-13 September	**Regional Committee for the Western Pacific, seventh session, Manila**
9-15 September	**PASB/AMRO Fourth Regional Congress on Nursing, Mexico City**
10-13 September	**Regional Committee for Europe, sixth session, Geneva**
10-30 September	**PASB/AMRO Training Course for Operators of Waterworks, Mexico City**
16-29 September	**Regional Committee for the Americas, eighth session, Guatemala**
18-29 September	**Seminar on Child Guidance, Lausanne**
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20-26 September	**Study Group on the Psychobiological Development of the Child, fourth meeting, Geneva**
24-29 September	**Regional Committee for Africa, sixth session, Luanda**
24-29 September	**Regional Committee for South-East Asia, ninth session, New Delhi**
25 September-2 October	**WHO/FAO Regional Nutrition Committee in South-East Asia, Tokyo**

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TRACHOMA CONTROL

A Review of WHO-Aided Campaigns

Trachoma has been known to exist ever since history was first recorded. Its importance as a cause of human suffering and economic loss over much of the world places it in the forefront of disabling diseases. No race is immune from the scourge, though some races are less susceptible than others.

In 1951, the Fourth World Health Assembly recognized that " in a great number of countries trachoma and other related ophthalmias constitute an urgent health problem " and that full consideration should be given to " effective preventive measures " against these diseases on an international level. Even previously, in 1948, a study group convened by WHO and the Office International d'Hygiène Publique had reviewed knowledge of trachoma and had recommended that WHO set up an expert committee on this disease. The Organization accordingly established its Expert Advisory Panel on Trachoma, from which members were drawn for the first meeting of an expert committee in 1952.[1] This committee supplied authoritative technical guidance for work on trachoma, so that subsequently the UNICEF/WHO Joint Committee on Health Policy was able to include this among the diseases for the control of which the two agencies would assume joint assistance. Following the guiding lines laid down by the Joint Committee, pilot projects were started in 1953 in those countries which had asked for assistance in trachoma control. Since then, the original projects have been expanded and new ones have been initiated.

In the development of activities in trachoma control, WHO has played a dual role. It has supplied countries which are engaged in control campaigns, or are anxious to launch or expand them, with special consultants, who advise on the planning of new or extended projects, assist in the collection of epidemiological and other necessary data, or assess the results of campaigns, as the case may be. Secondly, by organizing programmes of exchange of scientific information and of co-ordinated research, the Organization has helped to promote, among specialists from different countries, a better understanding of various debated points relating to the etiological, clinical, and therapeutic aspects of trachoma. Such programmes have already given interesting results.

A brief account of some of the WHO-aided trachoma-control campaigns in various countries follows.

TAIWAN

Under the present campaign in Taiwan, which started as a pilot project in 1953, all the schoolchildren in the country suffering from trachoma and associated ophthalmias are being treated, and plans are on foot to extend the examination and treatment services to all the family contacts of the children. An interesting feature of the campaign is the method of carrying out the treatment. Pupils in the lower classes are treated by the teachers, and pupils in the higher classes treat each other under the supervision of a teacher. Treatment is carried out twice daily. The diagnosis of infection and the control of treatment are the responsibility of a number of teams, each composed of one doctor and one nurse, specially trained for the purpose.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1952, 59

There is to be a long-term evaluation of this campaign, designed to find out how effective the successful treatment of a high percentage of the school-age population will be (*a*) in controlling the disease in the country as a whole, and (*b*) in reducing the present high incidence of blindness and other disabling sequelae among the population. To this end, WHO has recommended that a survey be carried out on a representative sample of the adult population, so that there will be a basis for comparison when the children now under treatment reach adulthood.

Treatment in schools

Up to 15 February 1956, that is, after seventeen months of work, 438 trachoma teams had examined 1 583 074 schoolchildren. Of these, 849 242 (54%) were suffering from active trachoma and 290 836 (19%) from conjunctivitis. These 1 140 078 infected children were put under treatment in the schools, with the collaboration of 1455 school principals and 26 826 teachers, who had received the necessary training.

After two months of treatment, 1 070 073 children were re-examined: 447 731 (42%) were pronounced "cured" and 420 969 (39%) improved; 17% showed no change and only 2% an aggravation of their condition. All the children not recognized as "cured" were submitted to treatment for further periods, each lasting for one month; re-examination was carried out at the end of each treatment period.

By April 1956, a total of 854 934 (75%) children had been cured, and 143 406 were still under treatment.

Treatment of family contacts

The extension of the campaign to the family contacts has not yet been fully developed. Two schemes have been tried out: (*a*) using schoolchildren of the higher classes (who have already gained satisfactory experience in treating their school-mates) to treat their families; and (*b*) enlisting the aid of the local Women's Club Association. Although the trials have been carried out on a small scale only, and for too short a time, the results are sufficiently promising for the expansion of this aspect of the programme to be envisaged.

* * *

Without doubt, the campaign in Taiwan has been effective. The development of a great number of serious and often disabling sequelae of trachoma and conjunctivitis has been prevented; and more than 1.5 million schoolchildren and their families have gained a sound knowledge of the problems of trachoma as a result of the educational aspects of the campaign.

MOROCCO

In Morocco, as in other countries of North Africa and the Middle East, the campaign is directed against seasonal epidemic conjunctivitis as well as trachoma. Over wide stretches of the country, and particularly in the south, virtually all the inhabitants contract both diseases in early childhood. Epidemics of conjunctivitis, "the bed on which trachoma is born", recur annually; and trachoma, once acquired, may persist throughout life if not treated.

The campaign involves three distinct activities:

(1) systematic case-finding and collective treatment of trachomatous schoolchildren;

(2) a field campaign against epidemic conjunctivitis during the late summer and autumn; and

(3) research aimed at furthering the knowledge of the local bacteriology and epidemiology of the two diseases, and at developing simpler, more effective, and more economical methods of treatment and control.

FIG. 1. TRACHOMA-CONTROL CAMPAIGNS

This Berber woman brings her child to have its eyes treated with antibiotic ointment at Ait Saoun, Morocco. Each visit involves walking a distance of twenty miles.

Photo : Belin, Rabat

Treatment in schools

This programme has two phases. In the first, case-finding surveys are carried out on all children in new groups at schools, and all active cases of trachoma are treated collectively. In the second, which is in effect a maintenance operation, cases already treated are watched and any relapses or reinfections are given further treatment, and children attending school for the first time are examined and new cases of trachoma are treated.

This work was begun in the school year 1953/54, and by the end of 1955 about 90 000 children had been treated. The results, which were assessed by a WHO ophthalmologist and statistician in a series of trials involving more than 12 000 children, showed rates of cure varying from 80%, among children in the better-class communities, to 55% in the poorest districts. Subsequent re-treatment of the failures with combined local application of antibiotics and oral administration of sulfonamides—as recommended in the first report of the WHO Expert Committee on Trachoma [2]—has given more than 80% cures. The target number of new cases for treatment in 1956 is 40 000.

[2] *Wld Hlth Org. techn. Rep. Ser.* 1952, **59**, 5

Field campaign against seasonal epidemic conjunctivitis

For obvious practical reasons, the routine course of mass treatment by teams had to be reduced to a minimum, and the following standard course of treatment was given: application of Aureomycin ointment twice daily to the eyes on three consecutive days, this three-day cycle of treatment being repeated each month throughout the epidemic period, July-November. Owing to the very high incidence of infections, it was decided to treat the entire population; pre-arranged time-tables enabled each team to deal with about 10 000 people every month.

This collective treatment had a dramatic effect in suppressing the seasonal epidemics of conjunctivitis; and, through its success in curing the majority of acute and sub-acute cases and in preventing the serious corneal complications, it immediately won the enthusiastic co-operation of the people. It was, however, less effective in the many chronic mild cases and sub-clinical carriers, so that a large reservoir of infection remained from which fresh epidemics would arise during the next fly-breeding season. Since it was thus obvious that no permanent control of epidemic conjunctivitis or trachoma would be achieved by mass treatment for one season only, and equally clear that mass treatment by teams could not be continued indefinitely on a country-wide scale, a policy of gradual introduction of self-treatment was adopted and is now being developed.

No programme in self-treatment can succeed unless the people themselves are convinced of the value of treatment. The first essential, therefore, is for the teams to do all they can to stimulate the interest and collaboration of the people during the initial season of mass treatment. Once the people's enthusiasm is aroused, the way is paved for the second step—self-treatment under supervision. This is introduced during the next epidemic season, when the teams visit each community once a month, distributing fixed quantities of antibiotic ointment, free of charge, to the head of the family, explaining clearly to him how to use it, and giving simple talks on elementary health principles and ocular hygiene. From then onwards, the inhabitants are encouraged to treat themselves and to buy the antibiotic ointment from the village stores, where it has been put on sale by the Government at a low price. Arrangements have been made for free distribution of the ointment to those who cannot afford to pay.

This scheme of mass treatment has been put into operation in three areas—Ouarzazate, Tafilalet, and Agadir/Figuig—with a total population of 353 000. All the 120 000 inhabitants of Ouarzazate are now on self-treatment. The 138 000 persons in Tafilalet, where treatment was started in 1954, a year later, are on self-treatment under supervision; and the remaining 95 000 (Agadir and Figuig), who were first treated in 1955, will be at this stage during the next epidemic season.

Research

In an experimental sector, a series of field trials has been carried out, under the direction and supervision of a WHO team, to determine the relative efficacy of the following operations, applied singly and in combination, in the control of seasonal conjunctivitis and trachoma:

(1) mass antibiotic treatment during the epidemic seasons, as described above;

(2) mass prophylactic treatment with sulfonamides, administered orally, at the beginning of the epidemic season, to reduce the number of carriers;

(3) fly-control by insecticides and other means.

All these measures proved effective, but none achieved complete control. Collective

prophylactic treatment with sulfonamides gave good results experimentally, but there are serious difficulties in applying this method on a large scale. Application of insecticides was successful in temporarily controlling the fly population, but a long-term programme of environmental sanitation would be required to bring about a significant and permanent reduction in this important transmission agent. From a practical point of view, therefore, mass treatment with antibiotics during the epidemic seasons remains the method of choice.

In another experimental sector, where mass treatment of 1500 people was carried out for three successive seasons, the epidemics of bacterial conjunctivitis were successfully controlled and the underlying trachoma in all age-groups showed marked improvement, nearly 50% of the cases being cured.

In a third sector, studies are being continued on the bacteriological "curve of recovery" after treatment, with a view to improving the timing and efficacy of mass treatment.

TUNISIA

The epidemiological pattern of trachoma and seasonal conjunctivitis in southern Tunisia is similar to that in Morocco, and the

FIG. 2. TRACHOMA-CONTROL CAMPAIGNS

The WHO team leader of the project in Egypt and his national counterpart examine a boy who is blind in one eye as a result of a former attack of complicated conjunctivitis.

FIG. 3. TRACHOMA-CONTROL CAMPAIGNS

Students of an Egyptian girls' school are applying antibiotic ointment to the eyes of their fellow pupils.

programme of systematic case-finding and treatment of trachoma in schools follows closely that already described for Morocco. During 1954 and 1955 it involved some 20 000 children.

The campaign against seasonal epidemic conjunctivitis, however, has been modified to suit local conditions and national resources. It was decided to apply mass treatment by teams in two cycles of three days during the year. The first cycle was timed to coincide with the beginning of the epidemic season, so as to reduce the number of carriers; the second cycle of treatment was given during the peak of the epidemic. The object here, as in Morocco, was to show the people the value of collective treatment, and, eventually, to introduce self-treatment and prophylaxis on a nation-wide scale.

In 1954, approximately 200 000 inhabitants were treated; in 1955, the number was increased to 250 000. During 1956, these individuals will be introduced to self-treatment with free antibiotics under supervision and, later, to independent self-treatment with low-priced antibiotics which they will buy themselves. Again, as in Morocco, the ointment will be distributed free to those who cannot afford to pay. An intensive programme of health education will be continued and developed throughout all phases of the campaign.

Research has, up to the present, been directed primarily towards laboratory and

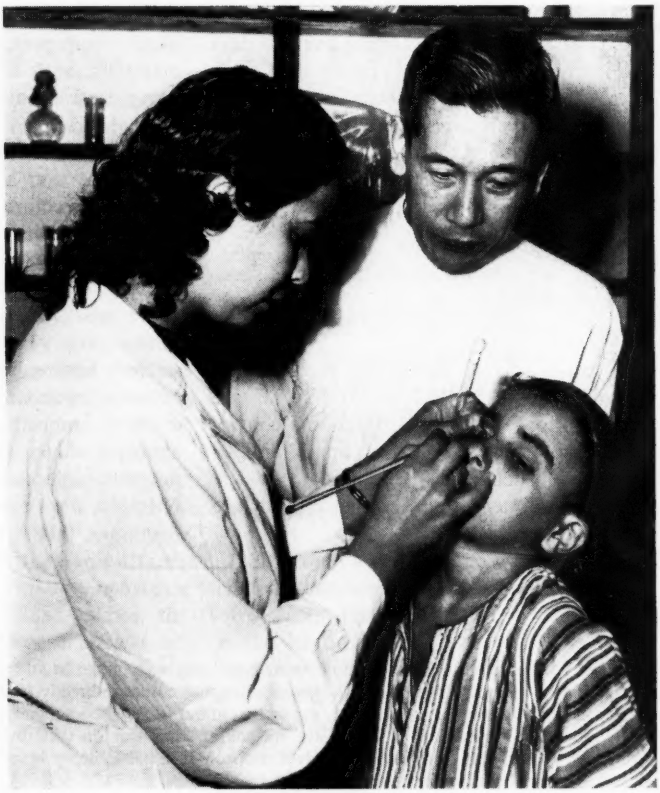
field studies on the basic epidemiology and bacteriology of conjunctivitis.

EGYPT

The campaign in Egypt is being carried out along the same lines as those in Morocco and Tunisia, but includes, in addition, a trial programme of prophylactic control of prevalent ophthalmias in pre-school children during the pre-epidemic period. This campaign is of particular interest because it is being undertaken in the Qalyub area, where an important health-demonstration project is under way, and is intended to provide information on the effect of general sanitation measures and an attempt at eradication of *Musca sorbens* on the incidence of trachoma and associated ophthalmias.

The examination and prophylactic treatment of about 7000 pre-school children and a follow-up of about 5000 have been carried out according to schedule, as have the sanitation work and the attempt to control *M. sorbens* with the organo-phosphorus insecticide " Diazinone ". The most recent report on this project indicates that the prophylactic treatment of pre-school children

FIG. 4. TRACHOMA-CONTROL CAMPAIGNS



An Egyptian physician takes a sample of the discharge from the eye of a boy infected with trachoma and associated bacterial conjunctivitis in a research project, assisted by WHO, in which Dr Yosio Kawakita, a virologist from Japan, has participated.

initially reduced the incidence of clinical cases of conjunctivitis; but, while the incidence remained low in one of the villages, in others there was a reappearance of clinical acute and sub-acute conjunctivitis within two to three weeks or even, in one village, within five days. Bacterial infections were reduced but were also generally high again a few days later. This suggests that reinfections started quickly, probably because the treated children were too small a section of the population and were easily reinfected by people from the other age-groups. Lack of control of infected flies might also have played a role in the reinfections.

With regard to the treatment of schoolchildren, results confirmed the findings in Morocco. No difference was apparent in the results of continuous treatment over 60 days and intermittent treatment consisting of three days' treatment per month repeated at monthly intervals for seven cycles.

It is still too soon to attempt any evaluation of the efficacy in trachoma-control of the measures to improve general sanitation and to control flies.

OTHER COUNTRIES

In addition to aiding in the projects described above, WHO and UNICEF are helping to strengthen trachoma-control activities in Yugoslavia and Spain and to initiate such activities in Indonesia.

The two international organizations are supporting an already active national trachoma-control service in Yugoslavia by supplying drugs, equipment, and transport, and by training staff. During the first phase of the internationally assisted operations, the Government treated 9000 children. Of particular interest in the Yugoslav campaign is the fact that in this country trachoma is not associated with bacterial epidemic conjunctivitis. However, the frequency of a type of non-trachomatous follicular conjunctivitis may give rise to difficulties in differential diagnosis which may influence the evaluation of the results of the trachoma control. For this reason a programme of investigation has been included in the plan of operations.

In Spain, too, international aid consists largely of the provision of drugs and technical equipment, transport, and training materials, with the actual control activities being carried out by the national trachoma-control service.

Trachoma is of great social importance in Indonesia, as a WHO consultant who visited the country in 1954 reported. Although there are difficulties in drawing up a programme suitable for local conditions, because of a scarcity of ophthalmologists and a lack of exact knowledge of the disease in this country, a small-scale project has been started, aiming to demonstrate the efficacy of Aureomycin treatment. About 3000 schoolchildren are being treated in four different areas of Java and Sumatra. Satisfactory progress has been reported, but no assessment of results is yet available.

Juvenile Epilepsy

Assessing the importance of juvenile epilepsy as a public health problem, a WHO study group recently pointed out, " The evidence that comes indirectly from family surveys made for the purpose of genetic study shows that about 6% of the total (adult and child) population have had some sort of convulsive episode at some time in their lives ".

The report of the WHO Study Group on Juvenile Epilepsy is scheduled for publication by the Organization within the next few months.

ENVIRONMENTAL SANITATION IN AFRICA

The first Seminar on Environmental Sanitation in Africa was held in Ibadan, Nigeria, from 12 to 17 December 1955. This Seminar, which was arranged by the WHO Regional Office for Africa in co-operation with the Government of the Federation of Nigeria and that of the Western Region of Nigeria, was attended by 40 doctors, engineers, health inspectors, scientists, and others from 13 countries or territories. It was presided over by Médecin-Général M. A. Vaucel, Inspecteur des Instituts Pasteur d'Outre-Mer (Paris).

The account of the Seminar which follows was prepared by the Rapporteur, Mr P. C. G. Isaac, Senior Lecturer in Public Health Engineering, University of Durham, Newcastle-upon-Tyne, England.[1] *The report of the Seminar has just been released in mimeographed form.*[2]

The well-being of the people of Africa

The well-being of any community implies the enjoyment of a comfortable standard of living by the members of that community. This obviously demands that the basic economy of the people be flourishing. In spite of the increasing industrialization of all parts of Africa, the fundamental wealth of this continent lies in agriculture, which not only feeds the people, but also provides the exportable surplus that generates wealth. A prosperous agriculture, in turn, depends on the physical status of the most important element in agriculture, the farmer. In short, the " physical, mental and social well-being " of Africans can be improved only as a higher standard of physical well-being is achieved. Health is the key to wealth and happiness.

In all parts of the world the earliest function of medicine has been to relieve *individual* pain and suffering; and, in early times, the action of the environment on man was accepted without any attempt being made to control it. The last century has seen a change of emphasis. It is now recognized that the environment can be controlled—that, indeed, it must be controlled if man is to make the best of his dwindling resources. In a continent such as Africa, where, over large areas, the environment is inimical to man, the challenge is especially urgent and the opportunities almost unlimited. So much needs to be done that even the stoutest-hearted may be daunted; but, as was pointed out at the Seminar, something can always be done: and, without a start, no progress is possible. The cost may be high, but the cost of doing nothing must be higher.

Environmental sanitation

More than a century ago the profession of civil engineering was defined as the control of the great forces of nature for the use and convenience of man. *Mutatis mutandis*, this is an excellent and challenging definition of environmental sanitation, implying that all factors which can affect man's well-being for good or ill must be brought under control.

[1] Much of the material in this article was used also for a report on the Seminar, by Mr Isaac, which appeared in *Bull. Hyg. (Lond.)*, 1956, 31, 349-51

[2] A limited number of copies of this document are available through the WHO Regional Office for Africa, Brazzaville, French Equatorial Africa.

It appeared, at the outset of the Seminar discussions, that this concept was strange—and even chimerical—to many of the participants. As a result, the discussions started slowly. Visits to health centres, hospitals, and water and sewage treatment plants, however, were most valuable in bringing the matter into focus and stimulating the Seminar's work.

It was felt that, since this was the first African seminar on this subject, the discussion should be kept, for the most part, on a general plane. It was essential to agree on the philosophy and principles of environmental control and to assess its possibilities and the methods of achieving it. A number of communications were presented on the aims and achievements of environmental control in some of the African territories. It was useful to consider environmental sanitation in four phases which are completely interrelated : evaluation of the problem, assessment of resources, planning the sanitation programme, and carrying the programme into effect. It was repeatedly emphasized that there was no part of the world which could not benefit from environmental sanitation and in which nothing could be done in this matter. This was, of course, true of Africa, where, in addition to the environmental factors, traditional habits, costs, and other special local considerations must be borne in mind.

Since many African peoples are rapidly approaching political maturity, it is important that an early start be made in controlling the environment in this continent, so that the African may become heir to a healthy community.

A study of the problem

In under-developed territories, including Africa, inadequate sanitation is a major epidemiological factor. It is not sufficient, however, to consider the control of the environment solely from the epidemiological point of view. It is essential to make an over-all assessment of the ecological factors involved, including, of course, the social, political, and economic as well as the physical aspects. In a first approach to evaluation, an environmental survey is invaluable and must include the factors outlined above. It is recognized that an environmental survey is an extension of the older sanitary survey. The Seminar participants felt that it was desirable that WHO should consider the requirements of such a survey with a view to establishing methods and standards.

The delicate balance between health and disease, and between hygiene and natural immunity, was discussed. In this respect it is essential to be able to judge the final effects of a sanitation programme. Inadequate basic epidemiological data demonstrate the urgent need for research in this field. While it is most necessary to undertake an environmental survey with an open mind, it was felt that, under African conditions, the most important problems would usually require first consideration of water, waste disposal, housing, and disease vectors.

Elaborating a programme

It was clear that no formula or prescription was universally applicable in planning a programme of environmental sanitation. In each case, local conditions, both as to needs and resources, must be taken into consideration. What is initially possible in any particular locality may often depend on factors usually considered irrelevant; but to the worker in this field no factor is irrelevant which can aid or hinder his work.

A number of papers and oral contributions described the administrative organization in Brazil, Sudan, Belgian Congo, and British and French African territories. It was seen that, owing to historical development, no one kind of organization was suitable to all

territories. This variation, in turn, affected the nature of the programmes which were reported upon, some in considerable detail. It was agreed, however, that the liaison between the health service and the public works and other relevant departments in the field of environmental sanitation should be very close.

The engineer, as the man whose basic training is designed to enable him to control the environment, has a special responsibility. It is therefore sad to note that in many African territories the engineer, without always being aware of, or responsible for, the consequent changes in the physical well-being of the people, carries out works which, in effect, change the environment. A much closer integration of the work of these engineers with the medical and community development agencies is highly desirable—even essential.

Co-operation of the people

Almost every Seminar contribution emphasized the importance of gaining the co-operation of the people affected by the sanitation programme. It seems that, where major epidemic diseases are concerned, it is necessary for the health service to act in advance of the local public opinion, but that in all other cases the acquiescence and, if possible, the co-operation of at least the influential members of the community are essential. A really successful programme is one based on the demand of the people, clearly expressed. In such cases active support, both in money and labour, will be forthcoming; and the sanitation programme will have achieved a flying start.

The co-operation of the people can be realized through health education, which, therefore, has at least two functions: to inculcate the principles of good health and hygiene, and to stimulate the demand for schemes of environmental control. Without the assistance of health education, satisfactory use and maintenance of sanitary installations are unlikely.

General experience shows that a most valuable approach for the health educator is through women and children, and through local organizations. Whoever may design the programmes of health education, the actual field work must be carried out by people as close as possible to those whom it is desired to affect. In this way the artificial barriers so often created can be avoided.

Since sick people are usually receptive to instruction concerning health principles, it is desirable to ensure that all those concerned with any phase of curative—as well as preventive—medicine play their part in health education.

Professional co-operation in environmental sanitation

While it is the medical officer who must take responsibility for the over-all health of an area, it is clear that the promotion of well-being through control of the environment demands the co-operation of many other professions, notably the engineer, the health educator, the nurse, the sanitarian (or health inspector), the teacher, and others. The public health engineer must play an especially valuable part at the highest levels. At the field level, however, much of this work will be carried out by the sanitarian, for whom further training is therefore most desirable.

In the remoter parts of Brazil, for example, where there was no existing health service, it has been found most satisfactory to set up a special public health agency in which the sanitary engineer plays an executive as well as an advisory role. It might be suitable for other areas to adopt this idea.

In the rural areas particularly, it is necessary to train Africans for environmental sanitation work. It was agreed that, for the

special problems presented by tropical Africa, it is essential for the training of the medical officer to emphasize public health and preventive medicine; the fundamental importance of the "curative" physician's properly appreciating his continuous role in prevention was stressed. The civil engineer, too, during his undergraduate studies, should be broadly trained so as to be able to take account of the biological aspects of engineering. The specialized public health officer or public health engineer will normally be trained at the post-graduate level, after his undergraduate studies in medicine or engineering.

While it is true that there are in Africa very few public health or sanitary engineers, the immediate openings for these specialists are not great; and the present training programmes in many parts of the world can satisfy the demand within a reasonable time. However, if, in Africa as elsewhere, environmental sanitation is to be a dynamic contribution to the welfare of a community, it is necessary that there should be increasing openings for public health engineers, working in the closest harmony with medical departments.

Conclusions of the Seminar

The Seminar heard descriptions of some interesting and successful schemes in certain phases of environmental sanitation. These served to demonstrate that Africa is a continent especially requiring environmental sanitation and one in which the results of environmental sanitation can be expected to be almost dramatically effective.

It is possible to state briefly the underlying principles of environmental sanitation as follows:

1. The real benefits of environmental sanitation to the well-being of a people are clearly recognized.

2. The environmental sanitation unit must be established in close relationship with the health service of the country. Its work must be based upon the country's needs and resources, and it must have staff competent to plan and direct all phases of the work.

3. Sanitation must be regarded as an essential part of the whole health service of the country; it must not be considered as a separate entity.

4. It is essential to draw up a long-term plan for environmental sanitation so that individual programmes and projects may be fitted into the whole.

5. It cannot be emphasized too strongly that it is always possible to do *something* helpful in environmental hygiene under *any* conditions and with *any* financial resources. Frequently the simplest things are the most important.

6. Nothing will be achieved until a starting point has been selected and action initiated—always the most difficult step. Thereafter the orderly progression of work and achievement may be realized.

Environmental sanitation is essentially a human problem, one of human needs and of human relationships. The provision of a health-provoking environment is a basic human duty.

Malaria Conference Report

The full report on the WHO-sponsored Malaria Conference for the Western Pacific and South-East Asia Regions (Second Asian Malaria Conference), of which a detailed account was given in the September 1955 number of the *Chronicle* (Vol. 9, pages 253-59), has now appeared as No. 103 in the WHO *Technical Report Series*.

A NEW PROBLEM IN DRUG ADDICTION

One of the functions which WHO inherited from the Health Organisation of the League of Nations is that of acting in an advisory capacity in the international control of drugs liable to produce addiction. To carry out this function the Organization depends upon an expert committee whose members consider at each session notifications from governments concerning particular drugs, papers presented by its members on addiction problems in various countries, and other technical matters. This committee then makes recommendations as to whether certain drugs should be brought under international control. These recommendations are subsequently transmitted to the Secretary-General of the United Nations, which has the authority for notifying governments that the drugs in question should be subject to the relevant international conventions.

In the most recent report of the Expert Committee on Drugs Liable to Produce Addiction,[1] attention is called to a drug addiction problem which is not yet considered of international significance but which is of great seriousness in certain areas: the abuse of amphetamine, popularly known as "wake-amine". Of particular interest is a memorandum on the amphetamine problem in Japan which is included as an annex to the committee's report. The information which follows is based on this memorandum.

THE ABUSE OF AMPHETAMINE IN JAPAN

Abuse of amphetamine was first noted in Japan in 1945, and a marked increase in the number of misusers of this drug has taken place since the summer of 1948. A nation-wide survey of addicts is now being made by the Ministry of Welfare. According to an investigation by the Ministry in May 1954, 7.2% of 127 142 persons interviewed had taken amphetamine, and 1.8% were abusing it. In May and June of the same year, 10 148 persons were taken into custody because of offences under a law aiming to control the drug; among these offenders, 5320 (52%) were found to be addicts.

All reports indicate that the highest incidence of addiction to the drug occurs among those in their teens and twenties. A survey of the number of addicts revealed that in the city of Kurume, in Kyushu Island, about 1.1% of the whole population were wake-amine addicts; however, the proportion was about 5% among those between the ages 16 to 25. In another investigation it was found that of 117 addicts admitted to a certain hospital between 1948 and 1953, 40% were between 21 and 25 years of age, and 80% between the ages of 16 and 30. There were no addicts over 40 years old. Of these addicts, 40% had first used the drug between the ages of 15 and 20, and 30% between the ages of 21 and 25. Further evidence of the seriousness of the problem among the young was supplied by a survey (in August 1954) of juveniles confined in reformatories: 33% were familiar with the use of amphetamine.

During the post-war period 1945-49, when amphetamine was available to anyone, it was used by students who desired to be more effective in study or in sports, by night workers for overcoming sleepiness, and by some persons for curiosity or because they wanted to enjoy night life. In recent years, however, there has been an increase in cases in which

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1956, 102. For a review of this report as a whole, see *Chron. Wld Hlth Hlth Org.*, 1956, 10, 144.

addicts were first induced to take the drug as a result of solicitation by illegal distributors. For example, an investigation in March 1955 of 116 amphetamine addicts admitted to psychiatric hospitals because of their mental impairment showed that this was high in the list of " motives " which led to addiction:

Motive	*Number of cases*
Night amusements, such as mah-jongg	43
Solicitation	31
Curiosity	24
Deceived	8
Improving working abilities	8
Desperation	2
Studying	1
Slimming	1

Those who became addicted to the drug often displayed such psychological traits as emotional instability or lack of confidence.

Other factors which stimulated abuse of amphetamine in Japan were the ready availability of the large military stock of the drug immediately after the surrender of the country, the spiritual collapse of the people, and the indifference of family and community to education of the young during the post-war period.

Addicts administer amphetamine to themselves chiefly by the intravenous or subcutaneous route. The frequency of injection and the dosage vary from 1-5 ampoules (one ampoule contains 3 mg of the drug) to 200 ampoules per day. Some addicts, in an effort to regain the sleep/wakefulness balance which has been impaired by the abuse of amphetamine, are, at the same time, users of barbiturates, antihistamine drugs, opiates, or other hypnotic or narcotic drugs.

Among the symptoms of chronic amphetamine intoxication are:

Physical: anorexia, loss of weight, insomnia, thirst, palpitation, and marked impairment of the autonomic nervous system.

Mental: auditory hallucination, delusion of reference, talkativeness, and hyperkinesis.

One investigator found that 90% of 110 amphetamine addicts admitted to hospital or to the observation ward suffered some type of mental impairment. The symptoms closely resemble those of schizophrenia. Yet, within 30 days of abstinence from amphetamine, the symptoms disappeared in almost all cases, although in some, more than 50 days were needed.

Addicts driven by hallucinations and delusions have committed crimes of cruelty. For example, of 60 murder cases in Japan during May and June 1954, 31 convicted murderers had some connexion with amphetamine misuse. There have also been cases of crimes committed by addicts just for the purpose of getting the drug.

Physical dependence on the drug is not very pronounced, and prompt prohibition of the taking of the drug is therefore the first step in therapy. In fact, it is considered illegal to administer amphetamine to the addict for therapeutic purposes.

The Japanese Government has taken vigorous steps in an attempt to cope with this drug addiction problem. In July 1949 the use of amphetamine was restricted to cases under doctor's prescription. In June 1951 a law was enacted which prohibited the importation of amphetamine into Japan and severely restricted the possession, manufacture, sale, and purchase of the drug. This law was revised and made even more strict in June 1954, and was again revised in 1955 in order to bring under control substances which can be converted into amphetamine or used to synthesize it. Action has been taken to expand facilities for the medical care and rehabilitation of amphetamine addicts; and a nation-wide educational effort has been initiated to gain public co-operation in the movement to eliminate amphetamine abuse, with special emphasis on educating youth and those who live in areas in which exposure to addiction is especially great.

AMPHETAMINE AS AN INTERNATIONAL CONCERN

The WHO Expert Committee on Drugs Liable to Produce Addiction had its attention drawn to the abuse of amphetamine and amphetamine-like substances in other areas as well as Japan. It proposed to " keep close watch on the situation " but was of the opinion that the problem was, at this stage, one for national rather than international action.

More recently, the Commission on Narcotic Drugs of the United Nations Economic and Social Council expressed a similar view. At its eleventh session, held in Geneva from 23 April to 18 May 1956, the Commission also considered the question of amphetamine and amphetamine-like substances, noting that these drugs were being more and more widely used in certain parts of the world and that they had given rise to numerous accidents, some of them fatal. The Commission recommended that governments take appropriate measures to control these substances on a national scale in order to prevent their abuse.

INTERNATIONAL ACTION FOR THE ABOLITION OF HEROIN

" Diacetylmorphine or heroin, the ' wonder drug ' of 1898, has been recognised, for several decades, as the most dangerous of the opiates—because it so easily induces addiction and because the treatment of that addiction can be so difficult and even perilous. " International efforts to abolish the use of heroin were initiated in the days of the League of Nations and have been continued by the United Nations and WHO. The steps taken and the results achieved are reviewed by the former Chief of the Addiction-Producing Drugs Section of the Organization in a paper, published in the *Lancet*,[1] from which the present article is drawn.

International recommendations

In 1923 the Opium Advisory Committee of the League of Nations initiated action directed towards the suppression of heroin. Eight years later the conference for the preparation of the Convention for the Limitation of the Manufacture of Narcotic Drugs tried, but did not succeed, in reaching unanimity concerning abolition of the production, sale, and medical administration of heroin. The experts consulted at that time expressed the opinion that heroin was particularly likely to produce addiction and that, despite the fact that it was at least equal to morphine in the relief of pain and more effective in the relief of cough, it could be entirely dispensed with. The 1931 conference did include in the Convention certain special restrictions on the export of heroin, and it recommended that governments should examine the possibility of abolishing or restricting its use and should communicate the results of such examination to the Secretary-General of the League of Nations.

Information on the manufacture, import, export, and consumption of heroin has been studied from year to year by the Permanent Central Opium Board and the Drug Supervisory Body. In 1949 [2] and 1950, [3] the WHO Expert Committee on Drugs Liable

[1] Wolff, P. O. (1956) *Lancet*, 270, 563

[2] *Off. Rec. Wld Hlth Org.*, 1949, 19, 31

[3] *Wld Hlth Org. techn. Rep. Ser.*, 1950, 21, 5

to Produce Addiction expressed alarm because production of the drug was still on the increase. Subsequently, as a result of the work of this committee and on the basis of information collected by WHO, the Sixth World Health Assembly recommended: (1) that campaigns should be undertaken to convince doctors and governments that heroin is not irreplaceable, and (2) that Member States which had not already done so should cease to produce or import the drug.[4] On 12 July 1954, the United Nations Economic and Social Council urged all governments to prohibit the manufacture, import, and export of heroin.

Results achieved

In 1949 only 25 countries and 27 non-self-governing territories had given up the use of heroin in medical practice. In the most recent report of the WHO Expert Committee on Drugs Liable to Produce Addiction, the present situation was summarized as follows:

> It was reported to the Committee that, of the 20 States which have supplied estimates for diacetylmorphine for 1956, only 4 [*] are not prepared to suppress the use of the drug; several of the others have announced that they will discontinue its use when present stocks are exhausted. It was emphasized that in general the estimates are significantly smaller than in former years and that over-all licit production has shrunk from 839 kg in 1948 to 132 kg in 1954. The Committee concluded from this information that more and more physicians throughout the world are finding it possible to substitute less dangerous drugs for diacetylmorphine, in accordance with the Committee's repeatedly expressed view on the replaceability of this dangerous addicting agent.
>
> The small number of countries still persisting in the use of diacetylmorphine, the reduction in estimates for the next year, and the marked decrease in production of the drug reflect very gratifying progress in the campaign against diacetylmorphine.[5]

The following examples of abolition of heroin are given in the paper:

The import, export, and production of heroin have been forbidden in the USA since 1924. Although the Government maintains a small stock in case a doctor should want to administer this drug to a patient, there have been only two requests for its use during all the succeeding years.

In Germany, "the heroin fatherland", the drug has not been used for a considerable number of years and has practically disappeared from illegal as well as legal traffic. For the time being the drug is suppressed by administrative means, awaiting prohibition by parliamentary Act. The German Pharmacological Society and the Association of Chambers of Physicians have been consulted and have raised no objection.

Switzerland has experienced a change of view with regard to the use of heroin: at the 1931 conference the Swiss delegation considered heroin indispensable for the treatment of certain diseases, but 20 years later Switzerland promulgated a federal narcotic law in which the importation and manufacture of heroin, and trade in the drug, were prohibited. This act may be regarded as a good example of international co-operation, since there was no addiction to heroin in Switzerland important enough to have required suppressive measures and since the decision may have been commercially disadvantageous to the country's pharmaceutical firms.

Alternative drugs

Knowledge of drugs which can replace heroin does not seem to be sufficiently widespread.

Among the less dangerous antitussives are codeine and dionine, which are not always

[4] *Off. Rec. Wld Hlth Org.*, 1953, **48**, 22

* Not counting the United Kingdom of Great Britain and Northern Ireland, where the situation has changed for the time being. In the meantime, Italy has, by decree of March 1956, prohibited the manufacture, import, and export of heroin.

[5] *Wld Hlth Org. techn. Rep. Ser.*, 1956, **102**, 5

strong enough and can have undesirable side-effects, hydrocodone, acetyldihydrocodeinone, dihydrocodeine, methadone, pholcodine, which has to be classed with codeine, and dextromethorphan. The last drug, which is much used in the USA, is said to have no side-effects, to maintain its efficiency over long periods, and not to induce addiction.

Analgesics which may replace heroin include hydromorphinone, pethidine, methadone, phenadoxone, and levorphanol. Attention should be given to levorphanol in particular. In chemical structure it is closely related to morphine, but its analgesic effect lasts longer than that of morphine, and consequently much longer than that of heroin, which makes it extremely useful in the alleviation of chronic pain. In addition, its side-effects are less pronounced than those of morphine, and it is effective and well tolerated when given by mouth.

Role of WHO in heroin suppression

It must be emphasized that WHO is not responsible for controlling illicit traffic in drugs. It is a medical organization, and its interest in encouraging the suppression of heroin, as in the control of all drugs liable to produce addiction, " is simply to try to prevent the *creation of ... addicts in medical practice* ".

In answer to criticisms of the Organization's action with regard to heroin, the former Chief of the Addiction-Producing Drugs Section states:

> Reference has been made to " political pressure " from the World Health Organization for the banning of heroin. As a retired medical officer of WHO, I can say that no such pressure was ever in question. A resolution of the World Health Assembly, which is composed of delegates of the Member States, the overwhelming majority of whom are physicians or (if not) advised by physicians, cannot properly be characterised as " political pressure ".

Toxicity of Pentachlorphenol

The possible toxicity of the pesticides which are so widely used throughout the world today is of considerable public-health importance. A comprehensive study of this problem was made by a WHO consultant, J. M. Barnes, and the results were published in 1953 under the title *Toxic hazards of certain pesticides to man* (*World Health Organization: Monograph Series*, No. 16).

Since the publication of this study, an increasing amount of evidence has accumulated to indicate that pentachlorphenol (discussed on page 67 of the monograph) is much more toxic than had been anticipated. Reports have been received of fatalities among men handling pentachlorphenol as a timber dressing (see, for example, Truhaut, R., l'Epee, P. & Boussemart, E. (1952) *Arch. Mal. prof.*, **13**, 567). In all cases the environmental temperature has been high. The features of poisoning are profuse sweating and thirst, with rapid collapse and death in some cases. The similarity to poisoning by DNC (4,6-dinitro-*o*-cresol) can be explained on the basis of the similar biochemical action of the two compounds.

Epidemiological and Statistical Information

CANCER OF THE DIGESTIVE ORGANS AND PERITONEUM

A recent number of the *Epidemiological and Vital Statistics Report* [1] contains statistics on deaths from malignant neoplasms of the digestive organs and peritoneum. This is the fourth in a series of studies on malignant neoplasms.[2]

The present report comprises tables on the following:

(1) mortality from all malignant neoplasms and from malignant neoplasms of the digestive organs and peritoneum, according to sex, including the retrospective data available;

(2) deaths from malignant neoplasms of the digestive organs and peritoneum per 100 deaths from all malignant neoplasms (all sites), by sex;

(3) deaths from malignant neoplasms of the digestive organs and peritoneum, according to sex and age;

(4) mortality from malignant neoplasms of the digestive organs and peritoneum in 1951-53 (yearly average), according to sex and age; and

(5) numerical importance of the various sites of the malignant neoplasms of the digestive organs and peritoneum in selected countries at certain ages, according to the Detailed List of the International Classification of 1948 (6th revision) and giving the actual numbers of deaths and percentage distribution.

In annexes are tables showing the periods covered by the various international lists of causes of deaths since the beginning of the century in certain countries; the differences in figures and in per cent. in deaths from malignant neoplasms of the digestive organs and peritoneum (both sexes) classified according to the International List of 1938 and to the international list in use at the time, for certain years and certain countries; and proportional figures and rates per 100 000 population, at the beginning of the century and at the present time, for persons aged 65 years and over, by sex, for deaths (*a*) from senility and unknown cause, (*b*) malignant neoplasms, all sites, and (*c*) malignant neoplasms of the digestive organs and peritoneum.

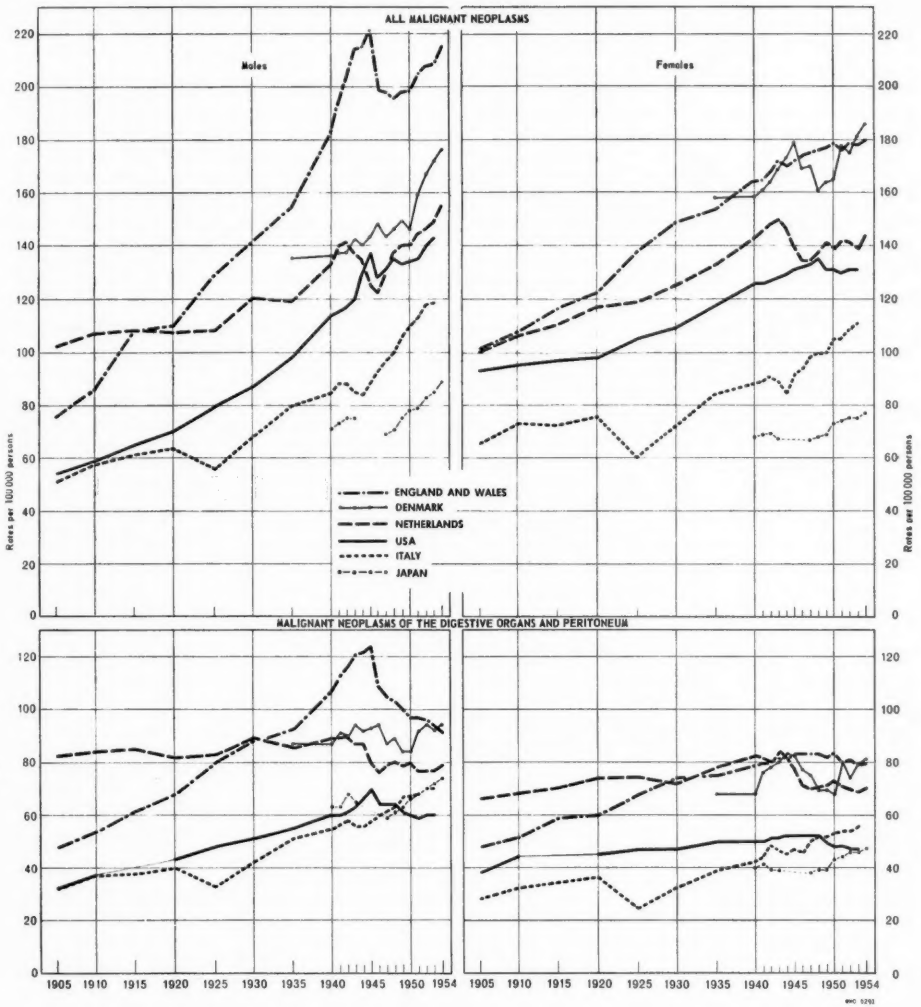
In considering data on mortality from malignant neoplasms, it is necessary to bear in mind the effect on these data of the successive revisions of the international lists of causes of death. During the period covered by the present study, the international lists were subject to six revisions (in 1900, 1909, 1920, 1929, 1938, and 1948). The classification of deaths from cancer underwent only minor changes in these six revisions, although the lists became more detailed. The figures were not greatly affected by these changes since the classification with regard to the principal sites, stomach and intestine, which are most significant in the mortality statistics, was not altered. The main changes were those introduced by the 1929 and 1938 revisions, which may be summarized thus:

1929 : Exclusion of malignant neoplasms of the pharynx (previously included in the digestive system under " Stomach and liver "), which were transferred to the group of malignant neoplasms of the buccal cavity entitled " Cancer and other malignant neoplasms of buccal cavity and pharynx ". *Inclusion* of

[1] *Epidem. vital Statist. Rep.*, 1956, 9, 289-340

[2] The other aspects of mortality from malignant neoplasms already dealt with in the *Epidemiological and Vital Statistics Report* are multiple myeloma (1955, 8, 21), Hodgkin's disease, leukaemia, aleukaemia (1955, 8, 81), and malignant neoplasms of the respiratory system (1955, 8, 211). See also Pascua, M., *Epidem. vital Statist. Rep.*, 1952, 5, 1 (" Evolution of Mortality in Europe during the 20th Century : Cancer Mortality "); *Bull. Wld Hlth Org.*, 1955, 12, 687 (" Increased Mortality from Cancer of the Respiratory System ").

FIG. 1. MORTALITY FROM MALIGNANT NEOPLASMS IN CERTAIN COUNTRIES, BY SEX, 1905-54
(Annual Rates)



malignant neoplasms of the pancreas, which were formerly included in the residual group : " Cancer and other malignant neoplasms of other organs or of unspecified organs ".

1938 : Exclusion of cancer of the anus, hitherto included in malignant neoplasms of the rectum and henceforward included in the group of malignant neoplasms of the skin.* *Inclusion* of abdominal cancer, which formerly appeared in the residual

* This exclusion is essentially theoretical since in practice it is impossible to separate data relating to the anus from those concerning the rectum.

group: "Cancer and other malignant neoplasms of other organs or of unspecified organs". This item, "Abdominal cancer", was deleted in the 1948 revision, since it was only a means of classifying types of neoplasm which were poorly defined owing to inexact diagnosis. The mortality figures entered under "Abdominal cancer" are in fact decreasing as the diagnosis of cause of death improves, particularly the diagnosis of malignant neoplasms.

TABLE I. DEATHS FROM ALL MALIGNANT NEOPLASMS PER 100 DEATHS FROM ALL CAUSES AT DIFFERENT PERIODS

	1901	1920	1947	1953
Australia (excluding full-blood aboriginals)	5.2	8.0	12.9	13.6
Canada	—	7.1[a]	13.3	14.5
Chile	1.0[b]	1.3	4.8	6.6
Denmark	—	10.5	16.2	19.6
England and Wales	4.4	9.4	15.1	16.9
Finland	—	4.5[c]	10.1	14.9
France	3.5[d]	4.7	11.9	13.4
Germany	3.7[e]	5.8	14.9[f]	16.1[f]
Ireland[g]	3.4	5.7	9.0	12.5
Italy	2.4	3.7	8.5	11.5
Japan	2.4	2.9	4.7	8.9
Netherlands	5.4	9.4	16.4	18.9
New Zealand (excluding Maoris)	6.8	8.5	14.6	15.5
Norway	6.4	8.6	15.3	17.6
Scotland	5.6	8.5	13.7	16.7
Spain	1.5	2.5	5.9	8.6
Sweden	7.6[h]	8.6	13.0	15.6
Switzerland	7.1	9.3	15.7	17.9
Union of South Africa (European population)	4.5[i]	5.3	12.5	14.5
United States	4.1[j]	6.4[k]	13.1	14.6
Uruguay	4.0	5.2	14.8	17.5

[a] 1921—Province of Quebec not included
[b] 1903
[c] 1927
[d] 1906
[e] 1905
[f] Federal Republic of Germany
[g] Actual territory since the beginning of the century
[h] 1913
[i] 1912
[j] 26.1 % of territory
[k] 80.9 % of territory

The tables in the present study show an increase in deaths from malignant neoplasms of the digestive organs and peritoneum since the beginning of the century. Generally speaking, however, this increase was clearly less marked than that noted for malignant neoplasms as a whole (see Fig. 1). The general increase may be partly attributable to the aging of the population: most forms of cancer are more common among people in the older age groups, with the exception of leukaemia, which especially afflicts children and adolescents. Improved diagnostic methods during the period covered by the statistics are another possible factor. The proportion of deaths classified as due to "senility" or

TABLE II. DEATHS FROM MALIGNANT NEOPLASMS OF DIGESTIVE ORGANS AND PERITONEUM PER 100 DEATHS FROM ALL MALIGNANT NEOPLASMS IN 1953

Australia (excluding full-blood aboriginals)	45.3
Canada	46.7
Chile	62.6
Denmark	48.4
England and Wales	44.6
Finland	56.2
France	50.1
Germany, Federal Republic of	54.5
Ireland	51.7
Italy	54.6
Japan	73.3
Netherlands	50.5
New Zealand (excluding Maoris)	46.3
Norway	51.0
Scotland	46.5
Spain	48.9
Sweden	52.7
Switzerland	50.6
Union of South Africa (European population)	45.7
United States of America	39.0
Uruguay	54.6

TABLE III. MORTALITY FROM ALL MALIGNANT NEOPLASMS (ALL SITES)* AND FROM MALIGNANT NEOPLASMS OF THE DIGESTIVE ORGANS AND PERITONEUM, ACCORDING TO SEX, IN 1953

TABLE III. MORTALITY FROM ALL MALIGNANT NEOPLASMS (ALL SITES)* AND FROM MALIGNANT NEOPLASMS OF THE DIGESTIVE ORGANS AND PERITONEUM, ACCORDING TO SEX, IN 1953

Actual numbers and rates per 100 000 persons of each sex
T = both sexes M = males F = females

Country	Number of deaths per sex						Mortality rates per 100 000 persons of each sex			
	All malignant neoplasms			Malignant neoplasms of the digestive organs and peritoneum			All malignant neoplasms		Malignant neoplasms of the digestive organs and peritoneum	
	T	M	F	T	M	F	M	F	M	F
Australia (excluding full-blood aboriginals)	10 922	5 643	5 279	4 951	2 691	2 260	126	121	60	52
Austria	14 991[a]	7 436[a]	7 555[a]	7 704	3 944	3 760	230	203	122	101
Canada	18 151	9 576	8 575	8 471	4 809	3 662	128	118	64	50
Ceylon	1 291	647	644	278[b]	149[b]	129[b]	15	17	3	3
Chile	5 279[a]	2 428[a]	2 851[a]	3 303	1 711	1 592	79	87	56	49
Denmark	7 720	3 732	3 988	3 737	1 999	1 738	172	181	92	79
Finland	5 949	3 074	2 875	3 346	1 647	1 699	155	133	83	79
France	74 212[c]	36 749[c]	37 463[c]	37 685	19 597	18 088	178	169	95	82
Germany, Federal Republic	86 931	41 578	45 353	47 417	24 139	23 278	181	175	105	90
West Berlin	5 219	2 363	2 856	2 446	1 156	1 290	252	225	123	102
Ireland	4 333	2 363	1 970	2 239	1 288	951	158	136	86	66
Israe (Jewish population)	1 288[a]	640[a]	648[a]	571	278	293	72	88	37	41
Italy	54 340	27 503	26 837	29 676	16 186	13 490	119	111	70	56
Japan	69 525[c]	36 209[c]	33 316[c]	50 931	30 553	20 378	85	75	72	46
Netherlands	15 136	7 797	7 339	7 643	4 021	3 622	149	139	77	69
New Zealand (excluding Maoris)	2 642	1 409	1 233	1 223	684	539	146	129	71	56
Norway	4 991[c]	2 447[c]	2 544[c]	2 547	1 423	1 124	147	150	85	66
Spain	23 737[a]	11 974[a]	11 763[a]	11 607	5 821	5 786	87	79	42	39
Sweden	10 880[a]	5 202[a]	5 678[a]	5 731	3 074	2 657	146	158	86	74
Switzerland	8 914	4 630	4 284	4 515	2 523	1 992	195	171	106	80
Union of South Africa (European population)	3 278[a]	1 682[a]	1 596[a]	1 499	830	669	122	116	60	49
United Kingdom: England and Wales	85 028	44 331	40 697	37 945	19 805	18 140	209	178	93	79
Scotland	9 840	5 141	4 699	4 578	2 337	2 241	210	176	96	84
Northern Ireland	2 125	1 049	1 076	1 050	527	523	155	152	78	74
United States of America[d]	216 376	111 352	105 024	84 444	46 511	37 933	143	131	60	47
Uruguay (1951)	3 351	1 840	1 511	1 830	1 016	814	137		75	

* Excluding neoplasms of lymphatic and haematopoietic tissues
[a] Excluding Hodgkin's disease, leukaemia, and aleukaemia
[b] Oesophagus, stomach, intestine, and rectum only [c] Preliminary or approximate figures [d] Excluding deaths among armed forces overseas

" poorly defined or unknown cause " has greatly decreased in most countries.

The relative importance of malignant neoplasms as cause of death at different periods is shown in Table I.

According to the detailed list of the International Lists of 1948, malignant neoplasms of the digestive organs and peritoneum are classified under the following headings: (1) oesophagus, (2) stomach, (3) small intestine, including duodenum, (4) large intestine, except rectum, (5) rectum, (6) biliary passages and liver (stated to be primary site), (7) liver (secondary and unspecified), (8) pancreas, (9) peritoneum, and (10) unspecified digestive organs.

Certain noteworthy conclusions may be drawn from the data in the present study:

1. In 1953 mortality from malignant neoplasms of the digestive organs and peritoneum accounted for 39% (USA) to 73.3% (Japan) of all deaths from malignant neoplasms (see Table II).

2. In view of the fact that malignant neoplasms rank second (cardiac diseases are first) as cause of death in most countries, cancer of the digestive organs and peritoneum alone may be said to occupy an important place among the principal causes of death, since mortality from malignant neoplasms of these organs represents about half of all cancer deaths.

3. Although mortality from cancer of the digestive organs and peritoneum continues to increase in certain countries, in others it remains stationary or is even slightly decreasing. Fig. 1 shows the different trends in Japan, Denmark, and Italy, on the one hand, and the USA, England, and the Netherlands, on the other.

4. There are differences in the mortality according to sex—sometimes significant differences—with variations from one country to another. In general, mortality from cancer of the digestive organs and peritoneum is higher among men than among women (see Table III and Fig. 1).

5. The mortality gradually increases with age; it is highest among persons over 60 years of age.

6. If one considers the relative importance of the specific sites in deaths from malignant neoplasms of the digestive organs and peritoneum, one notices that among men cancer of the stomach accounts for the most deaths, followed, in general, by cancer of the large intestine, the rectum, and the liver. Among women, cancer of the stomach or of the large intestine comes first, followed by cancer of the liver and of the rectum.

WHOOPING COUGH

Morbidity and Mortality Statistics

In comparison with other causes of death, the infectious diseases have experienced a gradual decrease in importance, at least in the countries which are the best equipped from the health point of view. Nevertheless, considering the world as a whole, these diseases continue to take a heavy toll in human life.

Among children of pre-school age, whooping cough—too often considered as of little importance, by many physicians as well as by the general public—is still one of the most deadly of the communicable diseases. For example, in the United States from 1940 to 1948, whooping cough caused three times as many deaths among children one year old as did measles, meningitis, diphtheria, poliomyelitis, scarlet fever, chickenpox, rubella, and mumps together.[1]

Although whooping cough is a notifiable disease in many countries,[2] the notifications

[1] Gordon, J. E. & Hood, R. I. (1951) *Amer. J. med. Sci.*, **222**, 333-61

[2] See World Health Organization (1956) *Annual Epidemiological and Vital Statistics, 1953*, Geneva, pp. 528-39.

give only a very incomplete and inaccurate picture of the actual morbidity. It has sometimes been observed that the notifications have amounted to only 3% of the actual number of cases,[3] but generally the proportion is higher. The under-estimation of deaths from whooping cough is less marked; however, a considerable proportion of mortality from this cause is commonly attributed to other diseases, particularly pneumonia. Errors to the extent of 36.7% have been noted.[4]

[3] Emerson, H. (1937) *Amer. J. publ. Hlth*, **27**, Suppl. to No. 6
[4] Gordon & Hood, *op. cit.*, p. 335

In October 1952 a conference of heads of laboratories which prepare vaccines against diphtheria and whooping cough was held at Dubrovnik, Yugoslavia. This was followed in March 1954 by an international conference at Frankfurt-on-Main at which recent progress in the prevention of the most common communicable diseases was discussed.[5] In a report on the earlier conference, it is noted that trials of whooping cough vaccine in Great Britain showed that the attack-rates among vaccinated children exposed to infection at home ranged from about 7.3% with

[5] See *Bull. Wld Hlth Org.*, 1955, **13**, 363-490.

TABLE I. SEX AND AGE DISTRIBUTION OF NOTIFIED CASES OF WHOOPING COUGH IN SELECTED COUNTRIES IN 1953

Country or territory		Number of cases (all ages)	Proportion (%) of cases for the different age-groups							
			-1	1-4	5-9	10-14	15-19	20-24	25 & +	?
Egypt	T	1 859	15.4	57.2	24.2	2.9	0.2		0.1	—
	M	930	15.8	58.3	22.8	2.9	0.1		0.1	—
	F	929	15.1	56.1	25.6	2.8	0.3		0.1	—
Canada (6 provinces [a])	T	2 346 [b]	11.5	39.8	39.9		2.1	2.0		4.7
	M	1 135	11.5	40.3	40.6		1.5	1.2		4.9
	F	1 211	11.5	39.4	39.2		2.6	2.7		4.5
Hong Kong	T	131	15.3	38.2 [c]	45.8 [d]	0.8		—		—
	M	65	13.8	44.6 [c]	40.0 [d]	1.5		—		—
	F	66	16.7	31.8 [c]	51.5 [d]	—		—		—
Denmark	T	42 542	9.8	51.5	36.8			1.9		—
France	T	4 859	11.9	52.0	31.0	3.4	0.6	0.3	0.8	—
	M	2 347	12.9	52.7	29.1	3.5	0.8	0.2	0.8	—
	F	2 512	11.0	51.4	32.8	3.3	0.3	0.4	0.8	—
Iceland [e]	T	1 595	16.1	44.0	25.8	7.5	3.9	2.7		—
	M	791	14.0	45.3	26.3	7.6	4.3	2.5		—
	F	804	18.2	42.8	25.4	7.3	3.5	2.9		—
Italy	T	38 126	37.9 [f]	26.7 [g]	30.5	3.0	0.3	1.0		0.5
	M	18 354	38.6 [f]	26.3 [g]	30.7	2.9	0.3	0.7		0.5
	F	19 772	37.2 [f]	27.1 [g]	30.4	3.0	0.3	1.3		0.5
Luxembourg [h]	T	304	9.2	74.3 [i]	16.4 [i]		—	—		—
Portugal	T	1 260	21.7	47.1	26.6	3.2	0.3	0.6		0.5
	M	534	21.7	46.4	26.6	3.4	0.4	0.6		0.9
	F	726	21.8	47.7	26.6	3.0	0.3	0.6		0.1
United Kingdom: England and Wales	T	157 835	8.9	51.8	36.3	1.5	0.3		0.9	0.3
	M	75 478	9.2	52.2	36.0	1.5	0.2		0.6	0.3
	F	82 357	8.6	51.3	36.5	1.6	0.5		1.3	0.3
Scotland	T	17 093	10.5	49.5	39.1		0.3		0.6	—
	M	8 083	10.6	50.2	38.7		0.2		0.3	—
	F	9 010	10.5	48.9	39.4		0.5		0.8	—

T = both sexes M = males F = females

— = nil
[a] Newfoundland, New Brunswick, Manitoba, Saskatchewan, Alberta, and British Columbia (32.7% of the total population)
[b] Excluding 109 cases of unknown sex
[c] 1-3 years
[d] 4-9 years
[e] 1952
[f] Under 3 years
[g] 3-4 years
[h] 1950-52
[i] 1-5 years
[j] 6-14 years

one vaccine to 30.4% with another, whereas the attack-rates in corresponding unvaccinated groups were 79.5% and 90.5%.[6] It would seem that satisfactory means of protection may soon be perfected; but, if prophylaxis is to be rationally applied, it is essential to have the most accurate knowledge possible of the prevalence and distribution of whooping cough.

With the reservations made above concerning the value of notifications of cases and deaths, the statistical tables published in a recent WHO *Epidemiological and Vital Statistics Report*[7] on whooping cough morbidity and mortality since the beginning of the century provide some useful information and supplement data on the same subject published earlier.[8, 9] A particular feature of these tables is that they give, for the first time and with respect to a number of countries, official figures for cases of a communicable disease classified by sex and by age-group.

The data on morbidity contained in the *Report* show that whooping cough is present almost everywhere. However, the rapid rise in the figures for certain countries and territories would seem to indicate that there has been a constant improvement in notification rather than a real increase in the prevalence of the disease.

Details are given, for some recent years, of the distribution by sex and by age-group of the cases notified in certain countries. Table I shows the percentage distribution of cases observed in 1953.

It will be noted that whooping cough affects a greater proportion of young children in southern countries (Egypt, Portugal, Italy) than in northern ones. A similar phenomenon has been observed in the United States.[10] In fact, this may be said to be true of most communicable diseases; today there is a tendency to recognize that most of the diseases (diphtheria, poliomyelitis, etc.) that seem to be comparatively rare in low latitudes are actually present in mild or non-apparent forms in infants and young children.

Table II and Fig. 1 illustrate the marked and continuous drop in deaths from whooping cough since the beginning of the century. Logan[11] has demonstrated that in England and Wales this decrease has been continuing without interruption for nearly a century. The decrease, although considerable in the light of registered rates for 1901-1905, is less than that observed with respect to scarlet fever, diphtheria, and measles. Analogous observations have been made in the United States.[12]

No completely satisfactory explanation of this regression—or of that noted in connexion with most of the other communicable diseases—has yet been given. It cannot be attributed to vaccination, the use of which is not very widespread. Neither can modern treatment be given the credit, since it has been introduced comparatively recently. It may be a question of a cyclic trend by century, in which case the position may in time be reversed.

Examination of the sex and age-group distribution of deaths from whooping cough reveals some very interesting facts. With a few rare exceptions mortality is more frequent among females. According to reliable observations, the same holds true with regard to morbidity. This makes whooping cough almost unique among the infectious diseases. On the other hand, in both sexes by far the greater proportion of deaths is among infants less than one year old, and particularly among those under six months of age. This has obvious implications for the selection of the age at which vaccination against whooping cough should be administered.

* * *

[6] See *Wld Hlth Org. techn. Rep. Ser.*, 1953, **61**, 25

[7] *Epidem. vital Statist. Rep.*, 1956, **9**, 361-403

[8] Pascua, M. (1951) *Epidem. vital Statist. Rep.*, **4**, 36-137

[9] *Epidem. vital Statist. Rep.*, 1952, **5**, 323-31

[10] Gordon & Hood, *op. cit.*, p. 333

[11] Logan, W. P. O. (1950) *Med. Offr*, **84**, 217-19

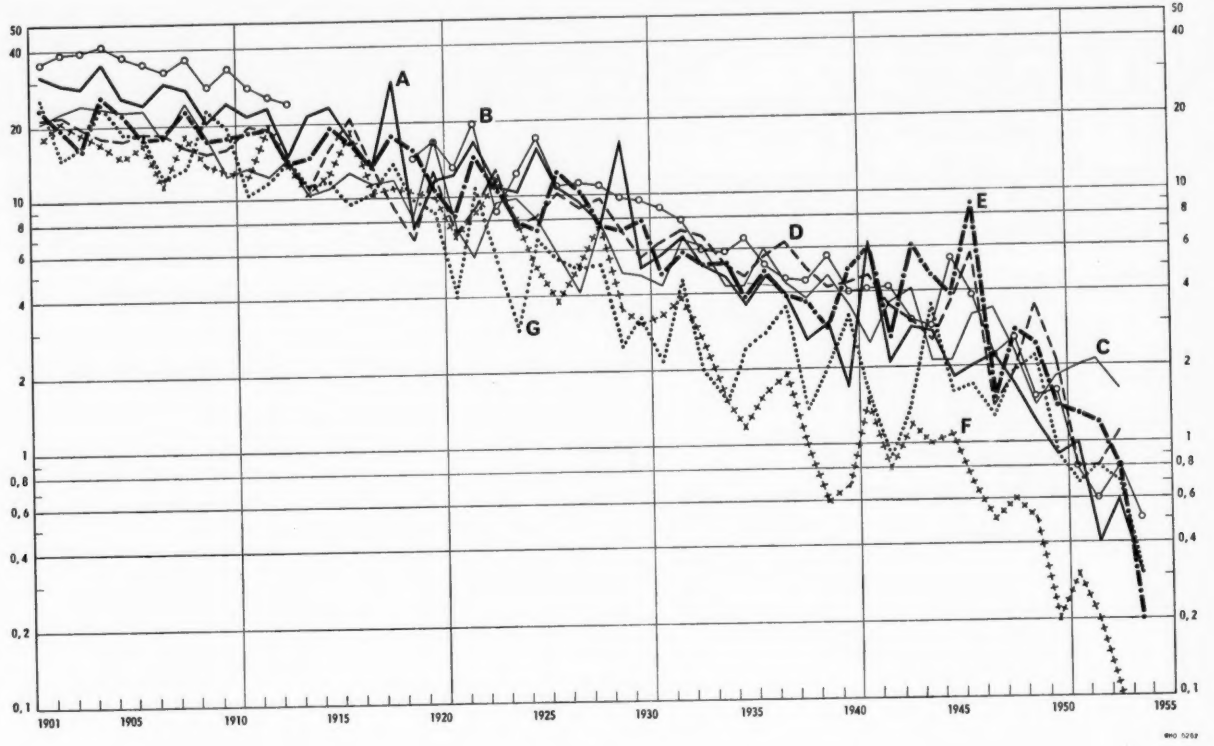
[12] Cohn, A. E. & Lingg, C. (1950) *The burden of diseases in the United States*, New York

TABLE II. MORTALITY FROM WHOOPING COUGH IN SELECTED COUNTRIES IN 1901-05 OR 1921-25 AND IN 1951-54

Country or territory	1901-05	1951-54	Quotient 1951-54 / 1901-05	Country or territory	1921-25	1951-54	Quotient 1951-54 / 1921-25
	Rate per 100 000 inhabitants				Rate per 100 000 inhabitants		
America				**Africa**			
Chile	55.0[a]	11.7[b]	0.21	Egypt	2.2[h]	0.2[b]	0.09
United States:				Union of South Africa [l]	12.8[m]	1.0[b]	0.08
All races	10.0[c]	0.4[b]	0.04	**America**			
Whites	9.1[c, d]	0.2[b]	0.02	Canada [n]	9.7[o]	1.0	0.10
Non-whites	24.3[c, d]	1.6[b]	0.07	Colombia	41.7[p]	28.7	0.69
Uruguay	4.0	5.2[e]	1.30	Costa Rica	47.4	14.1	0.30
Asia				El Salvador	54.3	20.5[b]	0.38
Japan	4.6	3.0[b]	0.65	Guatemala	133.4[q]	140.2	1.05
Europe				Mexico	91.4[m]	32.8[b]	0.36
Belgium	38.6[f]	0.7	0.02	Puerto Rico	9.6[h]	2.4[b]	0.25
France	8.5[f]	1.0	0.12	Venezuela [r]	12.9[s]	6.3[b]	0.49
Germany	32.4	1.2[g]	0.04	**Europe**			
Ireland	21.7	2.4	0.11	Austria	9.6[m]	1.4	0.15
Italy	19.7	0.9[b]	0.05	Denmark	10.3	0.8	0.08
Netherlands	21.4	0.9	0.04	Finland	17.6[p]	1.0	0.06
Norway	16.2	0.5	0.03	Luxembourg	12.3[t]	0.9	0.07
Portugal	16.1[h]	3.4	0.21				
Spain	22.8	1.9[b]	0.08				
Sweden	17.5	0.2[b]	0.01				
Switzerland	19.9	0.6	0.03				
United Kingdom:							
England and Wales	30.1	0.6	0.02				
Northern Ireland	30.1	1.1	0.04				
Scotland	49.0	0.9	0.02				
Oceania							
Australia [i]	11.2[f]	0.3[b]	0.03				
New Zealand [j]	8.2	0.4[b]	0.05				

— = nil
[a] 1903-05
[b] 1951-53
[c] Death-registration States
[d] 1911-15
[e] 1946-50
[f] 1906-10
[g] Federal Republic
[h] 1902-05
[i] Excluding pure-blood aboriginals
[j] Excluding Maoris
[k] 1928-30
[l] European population
[m] 1922-25
[n] Excluding Yukon and North-West Territories
[o] 1926-30
[p] 1927-30
[q] 1931-35, excluding 1932
[r] Excluding tribal Indians
[s] 1931-35
[t] 1923-25

FIG. 1. MORTALITY FROM WHOOPING COUGH IN CERTAIN COUNTRIES SINCE 1901
(Rates per 100 000 Inhabitants)



A = *England and Wales* **B** = *Belgium* **C** = *Spain* **D** = *Italy* **E** = *Netherlands* **F** = *Sweden* **G** = *Switzerland*

To sum up, among the communicable diseases of childhood whooping cough has certain special characteristics, the most important of which are high fatality among young infants and a predilection for females. Although mortality from this disease is gradually decreasing, the decline is slower than with most other communicable diseases. Moreover, the drop in mortality began before the discovery of effective means of protection; it has not yet been explained, and there is no *a priori* indication that it will continue indefinitely. Incidence of the disease, on the other hand, does not seem so far to have diminished to any appreciable extent.

Whooping cough is more dangerous during the first year of life than all the other communicable diseases of childhood put together, and it therefore deserves the attention of epidemiologists and public health authorities. Fortunately, it is probable that the means of protection now available will soon be used on a sufficiently wide scale to make control of the disease possible.

Seventh Revision of the International Lists of Diseases and Causes of Death

The Ninth World Health Assembly decided that the 1955 International Classification of Diseases should soon be published by WHO in the form of a new edition of the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*. The 1955 revision embodies the recommendations made by the International Conference for the Seventh Revision of the International Lists of Diseases and Causes of Death, held in February 1955. It is expected that the new edition of the *Manual* will be available in 1957.

German Translation of Reports on Alcohol and Alcoholism

Under the title *Das Problem des Alkoholismus*, a German translation of WHO expert committee reports on alcohol and alcoholism has been published in monograph form by Georg Thieme, Stuttgart. The translation is by Dr Med. Hans Meyer, of the Institut für Alkoholforschung Prof. Gonser-Haus e. V., Berlin-Dahlem. This publication, which is the third in a series called Schriftenreihe aus dem Gebiete des Öffentlichen Gesundheitswesens, contains the first and second reports of the Alcoholism Subcommittee of the Expert Committee on Mental Health, the first report of the Expert Committee on Alcohol, and *Alcohol and alcoholism ; report of an expert committee*, all of which have appeared in the WHO *Technical Report Series*.

Reports of Expert Groups

PSYCHIATRIC NURSING

The first report of the WHO Expert Committee on Psychiatric Nursing [1] furnishes much valuable information on all aspects of the care of the mentally ill as well as on the specific role of the psychiatric nurse.

Psychiatric nursing of necessity reflects social and cultural attitudes towards the mentally ill and the stage of development of the psychiatric services. The report traces the steps in the evolution of psychiatric care and the implications for the nursing personnel concerned:

> At a given time and in a given community, if the practice of psychiatry is one which rests on the assumption of gross irreversible differences between the mentally ill and the people in the society at large, segregation of patients occurs, with the protection of the community as its principal aim . . . Treatment consists nearly entirely in restricting the patient, and the nurse's role, too, is a protective and restricting one, . . . Education is mere technical training, . . .
>
> As a more discriminating and hopeful outlook towards the mentally ill develops, less emphasis is placed on the mere protection of the community, and more on the protection of the patient. Control and limitation of patients continue to be paramount but take on a more kindly attitude. The intrapersonal aspects of mental disease are stressed and psychiatric treatment is focused on describing these intrapersonal reactions and on developing empirical methods for their relief. This situation dictates the attitude and behaviour of the nurse towards her patient—i.e., she *must* accept the patient, be kind to him, understand him and his pathology. Her training focuses on descriptive knowledge, and her attitude towards her patient will be dependent on his category of disease or behaviour . . . By and large, however, the nursing care remains custodial.
>
> Another stage emerges with the development of the view that each illness is related to the patient's real situation and to a specific period in time. This implies that psychiatry begins to include the community in its focus as it moves towards the prevention of mental illness and the rehabilitation of the patient in the community, as well as his treatment within the hospital. Thus there develops a general trend towards a more " community-like " life in the hospital . . . .
>
> These changes imply a marked shift in the role of the nurse—the addition of an interpersonal concept of patient behaviour to an intrapersonal one, a shift from a custodial role to a therapeutic one. In them the education of the nurse moves from the descriptive, didactic type of programme to one which will provide her with more therapeutic skills in nursing her patients . . . .

Within the framework of a detailed discussion of the role of the psychiatric nurse, the report goes on to describe all of the community mental health services—mental hospital, extra-mural activities (out-patient clinic, day hospital, night hostels, clubs for discharged patients, etc.), care before and after hospitalization, the general community public-health programme—and the nature of psychiatric nursing therein. Emphasis is laid on the importance of group activities and on the idea of a " therapeutic community " within the mental hospital. The nurse plays an essential part in diagnosis, being called upon to observe and report. In treatment, her role becomes especially meaningful, since her duties are directly concerned with the effort to provide experiences in living which will enable the patient to establish relationships which are less anxiety-provoking and more comfortable than those in his pre-hospital life. The nurse's work is considered under three headings, technical, social, and interpersonal ; and it is stressed that the last is of central importance and that the nurse must

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1956, 105. 43 pages. Price : 1/9, $0.30, or Sw. fr. 1.—. Published in English, French, and Spanish.

therefore develop "interpersonal skills" which will help her to work with patients in therapeutic experiences.

Attention is then turned to the education of psychiatric nursing personnel. The learning process in psychiatric nursing is dealt with at some length, and the emotional problems in training for this work are noted. Teaching methods are most effective if they are group-centred; actual hospital experience is required as part of the training. With regard to what must be taught, the report states that the basic curriculum should include three broad fields of study:

> The first comprises systematic study of normal personality development in both its psychological aspects and its underlying physiology; some treatment of human motives and the mechanisms by which the developing personality organizes these motives into conformity with the demands of physical and social reality; and some discussion of the influence of social institutions and cultural roles on the course of development. Secondly, it is necessary to provide some understanding of the nature of mental illness in its varied forms; its relations with cultural norms of behaviour; its connexions with various physical and organic disorders; and the modes of psychiatric treatment that have been evolved to cope with it. Finally, a whole range of nursing skills and techniques has to be learned. To a certain degree this will involve teaching the symptoms and course of certain common physical disorders and methods of physical care and treatment that are also a part of general nursing; it also means imparting distinctive psychiatric skills such as interpersonal techniques and group dynamics, methods of hospital communication and recording, and skills necessary in community nursing.

The curriculum for supervisory nurses and the preparation of specialists in psychiatric nursing are also outlined.

In its final section, the report suggests lines for further studies in psychiatric nursing and the part which the nurse can play in research.

FOOD ADDITIVES

In September 1955, FAO and WHO convened a joint conference on food additives, a public health problem of increasing urgency to which the Sixth World Health Assembly had called attention. The report on this conference has now been published in the WHO *Technical Report Series* and the *FAO Nutrition Meetings Report Series*.[1]

The report outlines the advantages of international action with regard to food additives, pointing out that the potential health hazards from the inadequately controlled use of food additives are world wide, that exchange of information and experience on as wide a basis as possible would be of value, and that the size of the problem makes it impossible for any single country to undertake the investigations needed. It is noted that the question of food additives has implications for international trade as well as for health: "The greater the measure of agreement on methods of testing, on the interpretation of the results, and ultimately on the actual lists of permitted food additives, the greater the advantage to the free movement of manufactured foods in international trade."

Specific lines of international action are suggested, these being concerned largely with collecting and disseminating information on food additives, including information on the relevant legislation in different countries. Certain food additives are singled out as deserving priority: food colours, preservatives (antimicrobial agents and antioxidants), and emulsifiers, in that order.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1956, 107. 14 pages. Price: 1/9, $0.30, or Sw. fr. 1.—. Published in English, French, and Spanish. (Issued also as *FAO Nutrition Meetings Report Series*, No. 11)

BIOLOGICAL STANDARDIZATION

The ninth report of the Expert Committee on Biological Standardization [1] records the establishment of international standards for (1) diphtheria toxoid, adsorbed, (2) antirabies serum, (3) oxytetracycline, (4) polymyxin B, (5) corticotrophin (second standard), (6) growth hormone, and (7) hyaluronidase, and the assigning of international unitages to all of these standards and to standards or reference preparations of diphtheria toxoid, plain; swine erysipelas serum, anti-N; thyrotrophin; and dextran sulfate.

The stocks of the International Standards for Progesterone and Tubocurarine are low but will not be replaced since both can now be adequately characterized by chemical and physical methods. However, the Expert Committee on the International Pharmacopoeia will be asked to include these substances in the Collection of Authentic Chemical Substances which WHO has established in Stockholm.

Among other substances considered in the report are antivenins, blood-typing sera, influenza sera, pertussis vaccine and sera, poliomyelitis vaccines and sera, and typhoid and yellow fever vaccines.

In the final section of the report is a brief discussion of international standards, national standards, and " minimum requirements ", in which it is emphasized that, although many countries would like WHO to provide recommendations about minimum requirements for therapeutic and prophylactic substances, such a task does not come within the province of the Expert Committee on Biological Standardization. It is stated that the terms " biological standards " and " biological standardization " refer to " the provision and use of *material* standard preparations of therapeutic and prophylactic substances requiring bio-assay, and not to the drafting of specifications for these substances ". However, the Committee will continue to advise on the use of biological standards in comparative assays, and information on the methods which should be employed in the preparation and calibration of national standards will be provided to users of the international standards. Attention is called in the report to the fact that many techniques necessary for the proper use of the international standards are already described in WHO publications such as the International Pharmacopoeia, the *Bulletin of the World Health Organization*, the *Monograph Series*, and the *Technical Report Series*.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1956, **108**. 20 pages. Price : 1/9, $0.30, or Sw. fr. 1.—. Published in English, French, and Spanish.

" One of the outstanding organizations working throughout the globe is the World Health Organization.

" When the history of this era is written, when the substantial developments have been separated from the trivial items of our times, when the wheat has been separated from the chaff, it will be found that the World Health Organization has written one of the finest chapters of this era.

" For the first time in the history of mankind, the human community, acting on the basis of its collective conscience and its humanitarian instinct for its fellow human beings, has conducted a global assault against mankind's age-old scourges."

(Senator Alexander WILEY, of Wisconsin, in an address on " The World Health Organization and Nursing " in the Senate of the United States, 21 February 1956. Quoted in the *American Journal of Public Health and the Nation's Health*, 1956, **46**, 795)

Health Legislation

VENEREAL DISEASES

A Study of Existing Legislation

The legal measures taken by health authorities to control venereal diseases have always given rise to discussions in medical and public health literature. The application of these measures creates difficulties for physicians in the course of their practice, difficulties concerning professional secrecy; their application also comes up against the reluctance of patients to report the disease or the epidemiological circumstances under which they contracted it.

Compilations of venereal disease legislation have been published, containing the laws and regulations in force in various countries. The reviews and comments on this legislation which regularly appear in works on venereal disease control and in medical periodicals show how important this problem is considered to be. An examination of the principles underlying some venereal disease laws at present in force thus appeared to be of interest both from the point of view of methodology and from that of public health. Such a survey, covering the legislation of 44 countries, has just been published in the *International Digest of Health Legislation*.[1] Like two earlier surveys of a similar kind dealing, respectively, with leprosy [2] and tuberculosis,[3] it shows, as was to be expected, that the measures adopted in the countries examined vary considerably. Despite this variation in the measures for which provision is made in venereal disease legislation (notification of cases, tracing of sources of infection, powers of health authorities, etc.), several general tendencies may be observed.

In certain countries medical practitioners are themselves responsible for taking the initiative in venereal disease control. They are responsible for health measures and, in particular, for carrying out epidemiological investigations and for giving the necessary instructions to patients to prevent the spread of the disease. Where this is so, the health authorities intervene only if medical practitioners are unable to discharge their duties because patients refuse to give information or fail to adopt the prophylactic or therapeutic measures prescribed. In other countries such duties are the responsibility of the public health services, which also trace sources of infection, examine groups of the population, provide facilities for premarital health examinations, etc. The public health services often possess great coercive power. While the laws of some countries make very complete provision for control measures, there are others whose laws deal with only one or more aspects, such as the suppression of prostitution or of quackery.

Venereal disease is defined differently in the countries examined: in some countries it covers syphilis, gonorrhoea, and soft chancre; in others, lymphogranuloma venereum and granuloma inguinale as well.

Venereal diseases, like tuberculosis, are usually the subject of a special law or of a separate section of a general law dealing with communicable diseases. At the present time, however, it is generally held that venereal diseases should be dealt with in the same way as other communicable

[1] *Int. Dig. Hlth Leg.*, 1956, 7, 155. This survey is also available as pamphlet (price: 3/6, $0.70, Sw. fr. 2.–). Published in English and French.

[2] *Ibid.*, 1954, 5, 1

[3] *Ibid.*, 1952, 3, 417

diseases, and certain countries have recently amended their legislation in this sense.

Because in recent years the incidence of venereal diseases has diminished in some countries, owing no doubt to the advances made in the treatment of these diseases, as well as to other factors such as improved economic conditions, housing conditions, and employment opportunities, it may be asked whether the survey of comparative legislation that has just been published in the *International Digest of Health Legislation* is not of purely academic interest. To be sure, the incidence of syphilis has been falling in many countries, but not in all; moreover, even in countries for which reliable statistical data are available, it is by no means certain that there has been any diminution in the incidence of gonorrhoea. Voices have been raised against the premature abolition of venereal disease control measures. Three important organizations in the United States, for example—the Association of State and Territorial Health Officers, the American Venereal Disease Association, and the American Social Hygiene Association—expressed the view, in a joint declaration made in February 1954, that " despite great strides in venereal disease control, complete control is not yet imminent ". Venereal diseases continue to present a potential danger even in countries in which their incidence has been reduced to a very low level. Existing foci of infection may easily flare up when social conditions are disturbed or during wartime or whenever circumstances favouring sexual promiscuity are present. Moreover, the speed of international traffic must also be considered a factor in the propagation of the disease. Certain preventive measures provided for in venereal disease legislation should not be abandoned without careful consideration. As for legal measures designed to prevent congenital syphilis, it is obviously wise to maintain them.

The survey published in the *International Digest of Health Legislation* covers: venereal disease legislation (historical), venereal diseases covered by legislation, notification of venereal diseases, examinations required by law, compulsory treatment and hospitalization, duties of medical practitioners, infecting or exposing another to infection, publicity and charlatanism, employment and venereal diseases, child welfare, and organization of venereal disease control.

Notes and News

Eighteenth Session of Executive Board

Following its usual procedure, the WHO Executive Board met for a brief session, from 28 to 30 May 1956, after the closure of the Health Assembly. This session was devoted largely to administrative matters.

The Board selected the subjects for technical discussion at the Tenth and Eleventh World Health Assemblies: in 1957 the topic will be " The Role of the Hospital in the Public Health Programme "; in 1958, " Health Education of the Public ". It discussed and authorized publication of the second report of the Expert Committee on Maternal and Child Health.

A voluntary contribution from the Government of Brunei was acknowledged with thanks.

The Board decided that the Tenth World Health Assembly would be held in Geneva, beginning 7 May 1957.

At its next session, which is to open 15 January 1957, the Board will have on its

agenda a number of important subjects, including the proposed programme and budget for 1958.

The members of the Board and the designating countries are as follows: Professor G. A. Canaperia (*Chairman*), Italy; H. E. Dr R. Pharaon (*Vice-Chairman*), Saudi Arabia; Dr C. K. Lakshmanan (*Vice-Chairman*), India; Dr E. Suárez (*Rapporteur*), Chile; Dr A. C. Regala (*Rapporteur*), Philippines; Dr L. Baquerizo Amador, Ecuador; Dr G. D. W. Cameron, Canada; Sir John Charles, United Kingdom; Dr Dia E. El-Chatti, Syria; Dr B. M. Clark (alternate to Dr J. J. du Pré Le Roux), South Africa; Dr M. Jafar, Pakistan; Dr Maung Maung Gyi, Burma; Professor J. Parisot, France; Professor N. N. Pesonen, Finland; Dr L. Siri, Argentina; Dr A. da Silva Travassos, Portugal; Dr Masayoshi Yamaguchi (alternate to Dr R. Azuma), Japan; and Dr J. Zozaya, Mexico.

Seminar on Diarrhoeal Diseases in Latin America

Diarrhoeal diseases are a leading cause of morbidity and mortality among infants and children in the Latin American countries. As part of a programme of the Regional Office of the Americas directed towards stimulating preventive action, a series of seminars on this health problem is being planned.

The first Latin American seminar on diarrhoeal diseases in childhood will be held in Santiago from 5 to 10 November 1956. This seminar will bring together public health officers, epidemiologists, maternal and child health officers, paediatricians, sanitary engineers, public health nurses, bacteriologists, and other professional workers from Argentina, Brazil, Chile, Paraguay, Uruguay, and Venezuela. Working groups will discuss the following major themes: extent of the problem; diagnostic, bacteriological, and epidemiological considerations; treatment; sanitation; and problems and techniques in control programmes. It is expected that reports on these five subjects will be combined into a final summarizing document.

Syria Undertakes Malaria Eradication

Syria is the first country in the Eastern Mediterranean Region to embark upon malaria eradication. The Government has signed an agreement with WHO and UNICEF for assistance in a five-year programme which begins immediately.

It is estimated that approximately 1 150 000 persons live in malarious areas in Syria, and operations are planned to cover the affected areas simultaneously in order to stop transmission of the disease. The operations will be continued until no transmission has been observed for three consecutive years, after which the affected areas will be kept under constant surveillance. Special attention will be given to protecting nomadic tribes. In the southern districts of Damascus and Hauran, work will be co-ordinated with UNRWA malaria-control efforts already in progress.

WHO, under the Technical Assistance Programme, will provide international technical staff, equipment, and fellowships for senior Syrian staff to study abroad. UNICEF will contribute supplies and equipment.

Dr M. Postiglione has been appointed WHO team leader and technical adviser. Dr Postiglione has previously served the Organization in Cambodia and Burma. Other members of the WHO team are Mr C. Henrard, entomologist, formerly with WHO in Iran, and two sanitarians, Mr M. Gohar and Mr G. Sultan, both of whom have had wide experience with the Organization in Syria and other countries.

The Government has assigned a large staff of technicians and other workers to this programme and has established a temporary department, called the Department of Malaria Eradication, in the Ministry of Health and Public Assistance.

Expert Committee on Rheumatic Diseases : Second Session

The first report of the Expert Committee on Rheumatic Diseases, convened by WHO in 1953, stated that rheumatic fever, a disease in which infection with haemolytic streptococci is believed, on good evidence, to be an important initial factor, can be controlled and perhaps prevented by the use of antibiotics and sulfonamide drugs.[1] The possibility of controlling rheumatic fever and its serious cardiovascular sequelae by the prophylactic use of these drugs has raised great hopes, especially in countries where other acute infectious diseases have been brought under control and the problem of rheumatic fever has become relatively more important. In recent years extensive trials of antibiotics and sulfonamides in the prevention and control of rheumatic fever and rheumatic heart disease have been made, and the results appear to be very encouraging.

Another session of the Expert Committee on Rheumatic Diseases will be held in Geneva from 1 to 5 October 1956. The subject of this meeting is to be the prevention and control of rheumatic fever and rheumatic heart disease. Discussion will be confined to study of the epidemiology of these diseases and to a review of practical methods for their prevention and control, from the standpoints of both the individual and the community.

Fourth Regional Nursing Congress in the Americas

Since 1949 three congresses have provided an opportunity for nursing leaders in the Americas to discuss professional problems and ways of meeting them. As an educational process, these contacts between nurses from countries where the profession is in its initial stages and from those where it is more advanced have proved very fruitful. Sponsored by the Pan American Sanitary Bureau and the World Health Organization, the meetings are actively supported by the governments of the various countries, which send one or more nurses and pay their expenses.

The Fourth Congress is planned for 9 to 15 September 1956 and is to be held in Mexico City, at the invitation of the Mexican Government. A local planning committee has been appointed by the Mexican Nurses Association, and a large number of national nurses are now working on the preparation of various phases of the congress.

By polling all nursing associations in Latin America, the theme " Administration in Nursing " was selected for discussion from a list of topics suggested at the preceding congress in Rio de Janeiro (1953). Four days are to be reserved for group meetings. During the first two days, discussions will centre on general principles of administration, and each discussion group will be made up of representatives of many fields of nursing. On the last two days, discussions will cover administration of nursing education programmes, auxiliary nursing programmes, and public health or hospital nursing services ; and each group will be composed of nurses interested in specific services or programmes. A number of PASB/WHO and International Cooperation Administration nursing advisers have been invited to participate in the group discussions.

All Member Governments of the PASB/WHO and all nurses associations throughout Latin America have been asked to send representatives to the congress. The International Council of Nurses and the International Committee of Catholic Nurses, both of which are in official relations with WHO, have also been invited, as well as the International Cooperation Administration, the Rockefeller Foundation, the Kellogg Foundation, and the League of Red Cross Societies. In addition, a general notice of the congress has been sent for publication in the nursing journals of the Western hemisphere to inform all graduate nurses that they will be welcome.

Specific recommendations made at previous regional nursing congresses and the information exchanged during the discussion of common problems have contributed to the

[1] *Wld Hlth Org., techn. Rep. Ser.*, 1954, **78**, 17

improvement of nursing education and nursing service in all the countries represented. It is expected that the Fourth Congress will offer even greater opportunities in view of the additional experience acquired and the wider interest shown in nursing during recent years.

Study Group on the Psychobiological Development of the Child

In 1953, WHO convened a study group composed of outstanding representatives of a wide range of disciplines to discuss freely and informally, from their various viewpoints, the psychobiological development of the child. This study group met again in 1954 and 1955 and is to hold its final session in September 1956.

The regular members of this study group are: Dr J. Bowlby, Director, Children's Department, Tavistock Clinic, London, England; Dr F. Fremont-Smith, Josiah Macy Jr Foundation, New York, N. Y., USA; Dr. B. Inhelder, Professor of Child Psychology, Institut des Sciences de l'Education, Geneva, Switzerland; Dr K. Z. Lorenz, Forschungsstelle für Verhaltensphysiologie des Max-Planck-Instituts für Meeresbiologie, Buldern-über-Dulmen, Germany; Dr Margaret Mead, Associate Curator of Ethnology, American Museum of Natural History, New York, N. Y., USA; Dr K.-A. Melin, Clinic for Convulsive Disorders, Stockholm, Sweden; Dr M. Monnier, Laboratoire de Neurophysiologie appliquée, Geneva, Switzerland; Professor J. Piaget, Institut de Psychologie, Paris, France; Dr A. Rémond, Chargé de Recherche, Centre National de la Recherche scientifique, Paris, France; Dr J. M. Tanner, Institute of Child Health, The Hospital for Sick Children, London, England; Dr W. Grey Walter, Burden Neurological Institute, Bristol, England; and Dr R. Zazzo, Director of the Laboratoire de Psychobiologie de l'Enfant, Paris, France.

At its first meeting, the group considered many aspects of child development, including physiological growth, integration of motor functions by the central nervous system, stages in mental development as shown by psychological tests and as related to scholastic stages, "instinctive" versus "conditioned" behaviour, electroencephalographic records as related to personality, possible early dislocation of instinctive responses, and variations from one culture to another in what is regarded as normal in child development. Some of these topics were further discussed at the second meeting. It was shown how contributions could be made to the understanding of what is " normal " development through animal experiments on behaviour, cybernetic models, and anthropological studies. The third meeting was devoted mainly to the subject of socio-cultural influences in the development of sex differences and of the sense of identity. An attempt was made to translate the stages described in the development of identity into neurophysiological terms, with reference also to cybernetic parallels.

At its fourth and final meeting, the group intends to try to synthesize the points of view of the disciplines which it represents and to reach some general agreement as to the interaction of the factors involved in child development, the way characteristic stages follow one another, and the actual mechanisms involved when one stage succeeds another. It has been admitted that searching for a " common language " to facilitate understanding between the representatives of different specialities is of fundamental importance.

Considerable preparatory work has been undertaken for this meeting. Professor Piaget, who was requested to make the initial presentation at the meeting, has circulated to group members a stimulating paper on the general problems of the psychobiological development of the child; this is expected to serve as a starting point of the discussions. Several other members of the group have submitted comments on Professor Piaget's paper and have replied to specific questions addressed to them. In addition, a film is being made, at the instigation of Dr Bärbel Inhelder, at the Institut des Sciences de l'Education of the University of Geneva. WHO has contributed financially to the

making of this film, which will be used as illustrative case-material for the meeting. To illustrate further the possibilities of co-ordinating the work of the different disciplines, studies on a group of children are to be carried out jointly by the above institute (from the psychological aspect), by Dr Grey Walter (from the electrophysiological aspect), and by Dr Tanner (from the physiological aspect). Furthermore, Dr Melin expects to have completed for the meeting a review of data on the electrophysiological development of the child's brain. This study arose out of the study group's earlier discussions and has been carried out during short periods of Dr Melin's employment as a WHO consultant, during which he has been enabled to meet workers in this field from different countries.

At each of the group's meetings there has been one or more guest-members. At this final meeting Professor C. von Bertalanffy, Director of Biological Research at Mount Sinai Hospital, Los Angeles, Calif., USA, will be the guest. He is preparing a paper which seeks to link up some of his own work with that of other members of the group and to contribute to the quest for inter-disciplinary co-ordination. Also participating in the meeting will be Mr E. Erikson, Austen Riggs Center, Inc., Stockbridge, Mass., USA, who was a guest at the last meeting, and Dr G. R. Hargreaves, former Chief of the Mental Health Section at WHO Headquarters, now Professor of Psychiatry at Leeds University, Leeds, England.

Fifth European Seminar for Sanitary Engineers

Sanitary engineers and public health officials from 22 countries met in Helsinki from 23 to 29 July 1956 to take part in the Fifth European Seminar for Sanitary Engineers, sponsored jointly by the WHO Regional Office for Europe and the Government of Finland. At this seminar specific aspects of water pollution were dealt with, following up discussion of the general problem of water pollution which was the main theme of the fourth seminar, held in Opatija, Yugoslavia, in 1954.

The principal topics considered at the Helsinki seminar were: (1) the pollution problem in relation to water economy as a whole; (2) the present situation with regard to ground-water pollution in European countries and measures directed at its prevention; (3) the dangers associated with the disposal of certain toxic industrial wastes; (4) special problems in the northern European countries in disposing of pulp-mill wastes; and (5) the increasingly important problem of the safe disposal of radioactive wastes. Some of the papers which served as starting points for the seminar discussions are to be published in a forthcoming number of the *Bulletin of the World Health Organization.*

Conference on Training in Hygiene and Preventive and Social Medicine

As part of WHO's education and training programme in Europe, three conferences on the teaching of hygiene and preventive and social medicine have been organized by the Regional Office for Europe: the first, on undergraduate teaching, was held in Nancy, France, in 1952; the second, on post-graduate training, in Göteborg, Sweden, in 1953; and the third, also on post-graduate training, in Zagreb, Yugoslavia, from 2 to 7 July 1956.[2]

The Zagreb conference, like its predecessor, gave directors and staff of schools and training centres of public health an opportunity to discuss common problems with leading public health administrators. The following questions were considered in the light of the existing situation in the countries of Europe:

1. What are the needs for various categories of health officers in different countries?

2. What training is needed for these various categories ?

3. How can training institutions best be organized to meet these needs ?

4. What methods can be developed for

[2] Information furnished by the Nancy and Göteborg conferences has been used in the preparation of a monograph which is soon to be published by WHO : Grundy, F. & Mackintosh, J. M. (1956) *The teaching of hygiene and public health in Europe ; a review of trends in undergraduate and post-graduate education in nineteen countries.*

closer co-operation between schools and training centres of public health ?

Educators and public health administrators from Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and Yugoslavia participated in the conference.

Agreement on African Office Signed

On 22 June 1956 an agreement was signed in Geneva between the French Government and the World Health Organization concerning the WHO Regional Office for Africa in Brazzaville, French Equatorial Africa. The Office will actually be located in Cité du D'joué, which is about 9 km from Brazzaville.

Under the agreement the French Government undertakes to build administrative offices and to provide accommodation for the WHO office and its staff and to lease this accommodation to the Organization for 18 years, a token payment to be made yearly by the Organization for the lease of the grounds and the administrative buildings. In addition, the French Government is to furnish all facilities and services to the WHO establishments, including the maintenance of roads, insect control, etc. The Organization is entitled to share the grounds and buildings, at its convenience, with international organizations with which it is in official relations.

The WHO Regional Office for Africa has been located in Brazzaville since 1952. It now has a staff of 90 persons and is participating in about 100 health projects in more than 30 countries and territories south of the Sahara.

Survey of Argentine Health Services

At the request of the Government of Argentina, the Pan American Sanitary Bureau, which acts as WHO Regional Office for the Americas, is assisting in a comprehensive survey of health problems and resources of that country. In April 1956 a group of consultants accompanied Dr Carlos Luis Gonzáles, Assistant Director of the PASB, to Buenos Aires for a preliminary meeting with Government officials and local representatives of the PASB. This group was composed of Dr Paulo C. A. Antunes, Professor of Applied Parasitology and Public Health, University of São Paulo, Brazil, former Assistant Director of the PASB; Dr W. Palmer Dearing, Deputy Surgeon General, United States Public Health Service; and Dr Abel Wolman, Professor of Sanitary Engineering, Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md., USA. Together with other consultants, they constituted an international commission which was scheduled to meet for the first time in July to discuss with Government officials recommendations for the reorganization and development of the health services of Argentina.

Public Health Programme for Assam

WHO and UNICEF have entered into an agreement with the Government of India to assist in the development of comprehensive public health services in the State of Assam. Plans have been drawn up for a programme in which 23 hospitals, 15 maternal and child health centres, and other smaller health units throughout the State will participate. These plans call for expansion and upgrading of rural health services, with particular reference to maternal and child health; expansion of training for nurses and midwives and development of training courses for sanitarians; improvement of medical and nursing undergraduate teaching and training in paediatrics; and intensification of health education activities.

Specifically, over a period of two years it is planned to set up 30 new health units to provide complete maternal and child health service, medical care, communicable disease control, sanitation, and school health and health education services; to upgrade at least 50 of the 480 dispensaries and 82 maternal and child health centres in various stages of development in the State; to provide public health courses for district medical

officers at the All-India Institute of Hygiene and Public Health, Calcutta, and refresher courses for medical officers in charge of rural health units; to improve and expand the training of nurses, nurse-midwives, and auxiliary personnel; to arrange a one-year course for sanitarians and refresher courses for those already in service; to construct a 50-bed children's hospital to facilitate training in paediatrics; and to intensify health education programmes by adding two new health education units to the two already functioning and providing refresher courses and special training for teachers.

The Director of Health Services of Assam will be immediately responsible for this project, to which WHO will assign a medical officer, two public health nurses, and a sanitarian, and for which UNICEF will provide essential equipment and supplies.

Blood Bank for Jordan

WHO is assigning an adviser to the Government of the Hashemite Kingdom of the Jordan to help in setting up a blood transfusion and blood bank service, which will also be used as a demonstration unit for training doctors, nurses, and other workers in the required techniques. The project is being financed by the Government with aid from United Nations Technical Assistance.

The first blood bank unit will be established in a new maternity hospital in Amman. The WHO adviser is expected to assist for a year in initiating the service and training personnel, after which the blood bank will become a permanent part of the hospital services of the country.

Environmental Sanitation Studies in Taiwan

The Chinese Institute of Environmental Sanitation, to which WHO gives assistance through the services of a public health engineer, is taking an active part in the improvement of night-soil practices in Taiwan. In March 1956 the Institute sponsored a conference in Taipeh to discuss the problem of organic waste utilization; 17 organizations were represented, and reports were presented on current work and problems. In addition to providing an opportunity for an exchange of information and opinion, this conference fulfilled a co-ordinating function in proposing a distribution of work on night-soil practices. This work is to include: (1) night-soil sampling and analysis, involving the establishment of standard procedures for sampling and analysis, actual field sampling and analysis, and studies of the effect of night-soil storage on destruction of pathogens and loss of nitrogen; (2) experimental studies on gas production from night-soil and the development of household digestion units to produce gas for fuel; (3) field studies on composting; and (4) studies on the heat treatment of night soil.

The Institute is also engaged in programmes for the improvement of rural sanitation, school sanitation, and meat hygiene, and in the training of sanitarians.

Health Worker Victim of Rabies

News has been received at WHO Headquarters of the death of one of the men working on a rabies-control project in the Americas in which WHO has been participating for a number of years. The victim was an entomologist employed by the Texas State Department of Health, one of the co-operating agencies in a WHO co-ordinated study of the role of bats in rabies transmission, and had been working for about a year and a half on the project; he was a field worker and had done a great deal of bat banding and collecting of bat specimens. Although there was no history of his having been bitten at any time by bats or other animals, he developed symptoms of rabies and subsequently died. However, actual exposure would not be entirely ruled out because of the presence of a " weeping sore " on the base of his neck while he was working in the bat caves. Rabies virus was isolated from his brain.

The United States Public Health Service has arranged for all its field men engaged in this work to undergo inoculation with an experimental vaccine which is being investigated, partly under the auspices of WHO, for its value in rabies prophylaxis prior to possible exposure to the disease.

People and Places

Public health engineers : Dr A. G. Friend, formerly with the Virginia State Department of Health, USA, has been appointed by PASB/WHO to aid in environmental sanitation programmes in the Caribbean area. His duty station is Barbados. Mr E. Izurieta, who was Chief of the Design Division of the Inter-American Cooperative Public Health Service, Quito, and professor at Quito's Universidad Central, has been assigned to work with the public health services in Bogotá, Colombia.

Tuberculosis consultant : Dr A. Penington has gone to Taiwan as medical consultant to assist the Government in the expansion of its tuberculosis control services and in integrating into the country's public health services a BCG vaccination campaign which has been in progress since 1951. Dr Penington, who is from Australia, has had considerable experience in tuberculosis control in Great Britain and in the USA as well as in his own country.

Psychiatric nurse : Miss I. I. Marwick has been appointed as a consultant on psychiatric nursing for the Western Pacific Region, in which capacity she is to visit Singapore, the Federation of Malaya, Taiwan, and the Philippines to help plan the development of educational programmes in mental health and psychiatric nursing. Miss Marwick is the Matron of the Tara Hospital in Johannesburg, Union of South Africa. She has had education in mental nursing (diploma from the University of London) as well as in general nursing and midwifery. She is a member of the WHO Expert Advisory Panel on Nursing and was one of the participants in the meeting of the WHO Expert Committee on Psychiatric Nursing in 1955.

Teachers for Institute of Hygiene, Manila: Under a programme of assistance in which the University of the Philippines, Johns Hopkins University (Baltimore, Md., USA), the Rockefeller Foundation, and WHO have been collaborating since 1953, the Organization has assigned two teachers to the Institute of Hygiene of the University of the Philippines for the academic year 1956-57: Mrs Ruth Freeman-Fischer, nursing consultant, and Mr W. G. Cochran, consultant in biostatistics, both of whom are professors at the School of Hygiene and Public Health of Johns Hopkins University.

Medical social service consultant : Mrs G. Beckman is serving as a consultant on medical social service in Japan. Mrs Beckman, who is Social Service Consultant of the California State Department of Public Health, USA, will assist the Japanese Government in training courses at the Institute of Public Health in Tokyo and at other institutions in the country.

Health educator : Professor Lucy S. Morgan, Head of the Department of Health Education at the School of Public Health, University of North Carolina, Chapel Hill, N.C., USA, is serving as a short-term consultant with WHO. Professor Morgan is assisting in the preparation of a study guide on the training of health personnel in principles and methods of health education. In the course of her assignment, she is consulting the government authorities concerned in Egypt, Iran, Jordan, Lebanon, and the United Kingdom.

Hospital administrator : Mr. James A. Willan, a hospital administrator from the United Kingdom, has been appointed by WHO to advise the Federation of Malaya on hospital administration and to train local staff in this field. Mr Willan has had more than twenty years of experience in hospital administration in various cities in the United Kingdom, Canada, and the USA. Most recently he was consultant to the Government of Canada, in Ottawa.

Area representatives : Dr W. W. Yung, Director of the WHO Epidemiological Intelligence Station in Singapore, has been named Area Representative for Brunei, the Federation of Malaya, North Borneo, Sarawak, and Singapore. Earlier this year, Dr A. E. Brown, who had served as WHO public

health administration specialist in Cambodia and Viet Nam, was appointed Area Representative for Cambodia, Laos, and Viet Nam, with headquarters in Saigon.

Chief of education section : Dr S. Middleton has been named Chief of the Professional Education Branch of the PASB Washington Office. Dr Middleton is a graduate of the Medical School of the University of Chile and has pursued advanced studies at Western Reserve and Columbia Universities in the USA. Before his appointment with PASB/WHO, he was associate professor at the Institute of Physiology of the University of Chile.

OBITUARY

Dr E. M. Lourie, Chief of the Biological Standardization Section of the World Health Organization since 1952, died suddenly on 11 August 1952, in Geneva.

Dr Lourie was born in Johannesburg, South Africa, in 1904. After attending University College and University College Hospital Medical School in London, he worked at the London School of Hygiene and Tropical Medicine. Later, he practised in hospitals in England and as a ship's surgeon for a number of years, following which he was a Research Fellow in chemotherapy with the Rockefeller Foundation, in New York, from 1931 to 1933. He then joined the Medical Research Council in England, for which he worked for some years, two of them being spent in the colonial service at Freetown, Sierra Leone, in a programme of testing drugs against trypanosomiasis. Later he was appointed Director of the Department of Chemotherapy at the Liverpool School of Tropical Medicine. His last position before joining WHO was with the Department of Pharmacology at the University of Oxford.

Dr Lourie's scientific work included contributions to the study of chemotherapy, trypanosomiasis, pharmacology, and other subjects. In 1945 he was awarded the Chalmers Medal by the Royal Society of Tropical Medicine and Hygiene, London.

Review of WHO Publications

The Training of Sanitary Engineers ; Schools and Programmes in Europe and in the United States. By Milivoj Petrik. Geneva, 1956 *(World Health Organization : Monograph Series*, No. 32). 151 pages. Price: £1, $4.00, or Sw. fr. 12.—.

In almost every country the demand for qualified engineers far exceeds the ability of existing educational institutions to supply them. This lack of opportunity for specialized study in a field of great importance to health improvement is of concern to WHO; and in an effort to increase recognition of the need for sanitary engineers and to encourage development of facilities for training them, the Organization, among other relevant activities, sponsored a symposium on the training of sanitary engineers in Europe.[1] In preparation for this symposium, Professor Milivoj Petrik, of the University of Zagreb, Yugoslavia, made an extensive survey of European schools and programmes. Professor Petrik's findings and his comments thereon form the body of this monograph.

It is believed that information of the type contained in Professor Petrik's survey has never before been assembled in one publication. By means of personal visits, correspondence, and study of the available programmes, the author collected all the information he could concerning training in sanitary engineering in 16 European countries—Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Switzerland, Turkey, the United Kingdom, and Yugoslavia. In addition, he undertook a review of sanitary engineering education in a selected number of teaching institutions in the USA, since this is the country in which specialization and education in this subject have reached the highest level. Details concerning the curricula offered in ten accredited schools of public health, the engineering faculties of thirteen universities, and the Massachusetts Institute of Technology are given for purposes of comparison with European courses.

A report on the symposium itself appears in an annex to the text proper.

This survey reveals great disparities among European countries in the education offered in, and recognition accorded to, sanitary engineering as a special branch of engineering. It calls attention to fundamental needs and, through comparison with sanitary engineering education in the USA, offers suggestions for further developments in Europe and other parts of the world.

[1] See *Chron. Wld Hlth Org.* 1955, 9, 230.

CORRIGENDA

Vol. 10, No. 5

MORTALITY FROM ACCIDENTS
(Other than Transport Accidents)

Page 138, left-hand column, line 3
delete diseases
insert all infectious and parasitic diseases

Page 140, left-hand column, paragraph (*a*), line 3
delete diseases
insert of the most important diseases

Page 141, right-hand column, paragraph *Accidental falls*, lines 5-11
delete The persons . . . significant
insert In all countries, mortality from accidental falls is highly concentrated, as to relative importance, in the age-group 65 years and over (see Table III).

Page 141, Table III, title
delete the title
insert **TABLE III. RELATIVE IMPORTANCE (%) OF THE MORTALITY CAUSED BY ACCIDENTAL FALLS AT CERTAIN AGES, BY SEX**